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TREASURY DEPARTMENT
Public Health and Marine-Hospital Service of the United States

HYGIENIC LABORATORY.—BULLETIN NO. 63

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& Medical
Serials

DIGEST OF COMMENTS
ON THE
PHARMACOPŒIA OF THE UNITED STATES
OF AMERICA

[EIGHTH DECENNIAL REVISION]

AND THE
NATIONAL FORMULARY

[THIRD EDITION]

FOR THE CALENDAR YEAR ENDING DECEMBER 31

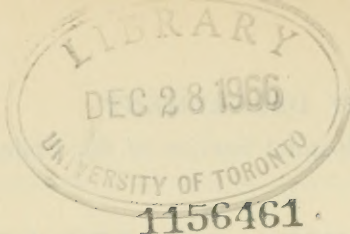
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MURRAY GALT MOTTER
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1910



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111

TABLE OF CONTENTS.

	Page.
Preface.....	5
List of literature reviewed.....	9
1. Title abbreviations—Journals.....	9
2. Title abbreviations—Pharmacopœias and nonofficial standards....	14
I. General comments:	
1. Legal status and development.....	15
1. Pure food and drugs law.....	15
2. The pharmacopœia as a legal standard.....	18
3. Supplement to the pharmacopœia.....	21
4. The physician and the pharmacopœia.....	23
5. U. S. P. Convention representation.....	25
6. Committee of Revision.....	26
7. Value of criticisms.....	27
2. Scope.....	28
1. Nature and content of the pharmacopœia.....	28
2. Nomenclature.....	30
3. Cost and size.....	33
4. Publicity.....	33
5. Time of publication.....	34
6. Doses.....	35
7. Antidotes.....	36
8. Weights and measures.....	36
9. Object and uses.....	38
10. Additions and deletions.....	41
11. Purity and strength.....	42
12. Atomic weights.....	44
13. Chemical formulas.....	46
3. Nonpharmacopœial standards.....	46
1. National Formulary.....	47
2. New and Nonofficial Remedies.....	49
New remedies.....	49
Synthetics.....	51
4. Analytical data.....	51
1. Adulterations.....	51
2. Reagents.....	52
3. Indicators.....	53
4. Physical constants.....	54
Specific gravity.....	54
Solubilities.....	55
Melting point determinations.....	56
Boiling point determinations.....	56
Thermometry.....	56
Polarization and refraction.....	57
5. Apparatus.....	57
6. Filters.....	58

I. General comments—Continued.

4. Analytical data—Continued.	Page.
7. Color standards and colors.....	58
8. Analytical methods and results.....	59
9. Chemical constants.....	60
10. Tests.....	61
5. Biologic products.....	66
Enzymes.....	67
Opsonins.....	68
6. Vegetable drugs.....	68
1. Powdered drugs.....	71
2. Valuation of vegetable drugs.....	72
3. Ash determinations.....	74
4. Glucosides.....	75
5. Alkaloids.....	75
6. Assay processes.....	76
7. Physiological standardization.....	78
7. Pharmaceutical preparations.....	79
1. General formulas.....	81
Forms of medicaments.....	81
2. Changes in strength.....	82
3. Standardization.....	82
4. Requirements.....	82
5. Galenicals.....	82
6. Decomposition.....	83
7. Incompatibility.....	83
8. Percolation.....	84
9. Extraction.....	84
10. Sterilization.....	84
11. Forms of administration.....	85
12. Methods of administration.....	86

II. International standards:

1. International conference for the unification of pharmacopœial formulæ for potent medicaments (Brussels Conference).....	87
1. Projet d'arrangement.....	87
2. Comparative tables showing degrees of compliance with the international protocol.....	90
3. Drops and droppers.....	100
2. Foreign pharmacopœias.....	100
1. British Pharmaceutical Codex.....	100
2. Swiss.....	101
3. Danish.....	103
4. Austrian.....	104
5. Belgian.....	105
6. Japanese.....	105
7. British.....	106
8. German.....	107
9. French.....	108
10. Dutch.....	108
11. Spanish.....	109
12. Italian.....	109
3. Comments on U. S. P. VIII relative to the requirements of the Brussels Conference.....	109
Spanish edition of the U. S. P. VIII.....	110

III. Comments on official articles.....	111
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PREFACE.

The literature of the year 1907, bearing on pharmacopœial matters, is of unusual interest in that it reflects the many and varied influences that have served to bring the Pharmacopœia of the United States and the National Formulary prominently to the attention of persons, both in and out of the professions directly interested, who had previously never had occasion seriously to consider either the uses or the requirements of such authoritative books.

The phraseology of the pure food and drugs act, June 30, 1906, has served to materially enlarge the field of usefulness of the Pharmacopœia and of the National Formulary by practically including their requirements as a portion of the law itself.

The acceptance of these two books as authoritative standards for the identity and purity of the substances described therein naturally attracted renewed attention to their shortcomings and errors, and the committees, in charge of their revision, this year authorized a number of changes and corrections.

These changes, in turn, attracted considerable attention and were widely discussed and commented upon. Prof. Joseph P. Remington, the chairman of the U. S. P. Committee on Revision, in discussing the changes in the pharmacopœia (Proc. Am. Pharm. Ass., 1907, v. 55, p. 58) calls attention to the fact that they are by no means so important or so far-reaching as their total number would appear to indicate. He points out that of the total number of 431 changes enumerated no less than 157 were made necessary through the adoption of a single change in one part of the book necessitating a corresponding change in all other parts of the book.

The change in the status of these two books and the emendations that were authorized by the committees on revision, were accompanied by a lengthy and exhaustive discussion, in several pharmaceutical journals, on the desirability of bringing about a radical change in the method of revising these two books.

This discussion being, largely at least, mere expression of personal opinions, while noted is but imperfectly reflected in the pages of this bulletin; it being deemed advisable to restrict the references as much as possible to demonstrable facts rather than expressions of opinion on possibilities.

As illuminating the relative standing of the two authoritative books it may be pointed out that an editorial in the *Druggists Cir-*

cular (N. Y., 1907, v. 51, p. 397) in discussing the making of the U. S. P. and of the N. F. comments at some length on the origin and the legal standing of the associations now owning these books. It appears that the United States Pharmacopœial Convention and the American Pharmaceutical Association are both incorporated under the laws of the District of Columbia, so that so far as corporate existence is concerned they are practically on the same footing with the distinction that the United States Pharmacopœial Convention, which was founded in 1820 was not incorporated until 1900, while the American Pharmaceutical Association, founded in 1852, was incorporated in 1888.

As might be surmised the opinions that have been expressed on the desirability of introducing radical changes in the methods of revising these two books differ widely, and the student who is interested in the history or the economics of the subject will find much to interest him in this controversy which, as has been pointed out, embodies nothing really new, either in principle or intent.

There can be no mistaking the fact that public and professional interest in the U. S. P. and the N. F. is constantly increasing, and these books in the course of time will surely be more generally recognized as being important factors in safeguarding the public health.

One of the more active influences in this direction is the now widespread appreciation of the desirability of establishing international standards for widely used potent medicaments.

The protocol adopted by the Brussels conference for the unification of pharmacopœial formulæ for potent medicaments, is being generally adopted in foreign pharmacopœias, and the failure of the U. S. P. committee on revision to adopt these provisions in their entirety has been severely commented upon, particularly abroad, where the U. S. P. is pointed out as being the one conspicuous exception to the general adoption of the provisions of the Brussels conference protocol.

Some rather pertinent comments on this subject will be found under the general heading "International Standards" and more particularly under "Comments on the U. S. P. VIII relative to the requirements of the Brussels conference."

An even casual review of some of the recent foreign pharmacopœias will impress one with the desirability and the actual need of some form of international agreement regarding the nomenclature of important or widely used medicaments. Much diversity of opinion and practice yet persists and, in some instances at least, the similarity or even the identity of names for widely varying products would suggest that in addition to annoyance and uncertainty actual harm might result from the careless mistaking of one for the other.

It is generally recognized that for answering questions and for the general upbuilding of a science it is necessary to know what

has already been accomplished in that particular field and that, for this purpose, a systematic compilation of the literature relating to the science is of tremendous importance.

The cooperation of the Public Health and Marine-Hospital Service in developing the science of pharmacopœdies by the compilation of comments appearing in current literature is being appreciated by medical and pharmaceutical associations generally and more particularly by individuals who are directly interested in the use or the limitations of the books officially recognized in this country.

The difficulty of satisfactorily complying with the frequently made demand that the U. S. P. and the N. F. include all of the available synonyms is well illustrated by the common names for some of the American drugs included in Bulletin 107 of the Bureau of Plant Industry, U. S. Department of Agriculture, some of which are quoted in this bulletin.

Many of the abstracts from regular medical journals included in the present bulletin, were compiled by Dr. Robert A. Hatcher, professor of pharmacology and materia medica, Cornell University Medical School, New York, while temporarily connected with the Hygienic Laboratory of the Public Health and Marine-Hospital Service.

The thanks of the compilers are due to the librarians of the U. S. Department of Agriculture, the Office of the Surgeon-General of the U. S. Army, the Library of Congress, and to the Philadelphia College of Pharmacy, the Franklin Institute, and the College of Physicians of Philadelphia for the use of the files of the several periodicals not in the library of the Hygienic Laboratory.

The thanks of the compilers are also due, and are herewith extended to the secretaries of the several state pharmaceutical associations and to the secretary of the National Association of Wholesale Druggists for copies of proceedings; also to the publishers of a number of pharmaceutical and drug journals for the current numbers of their several publications, and especially to Professor van der Wielen, of Amsterdam, Holland, for six volumes of the *Pharmaceutisch Weekblad*.

In conclusion, the compilers desire to express their appreciation of the suggestions that have been received for perfecting the style and content of these bulletins, and beg to assure officers of the Public Health and Marine-Hospital Service and others who may have such suggestions to offer that they are appreciated and will, in so far as is possible, be utilized.

M. G. M.
M. I. W.

DIVISION OF PHARMACOLOGY,

HYGIENIC LABORATORY,

March 15, 1910.

LIST OF THE LITERATURE REVIEWED.

1. TITLE ABBREVIATIONS—JOURNALS.

- Am. Chem. J.—American Chemical Journal, Baltimore, 1907, v. 37, 38.
- Am. Druggist, N. Y.—American Druggist and Pharmaceutical Record, New York, 1907, v. 50, 51.
- Am. J. M. Sc., Phila.—American Journal of the Medical Sciences, Philadelphia, 1907, v. 133, 134.
- Am. J. Pharm., Phila.—American Journal of Pharmacy, 1907, v. 79.
- Am. J. Physiol., Boston.—American Journal of Physiology, Boston, 1907, v. 18, 19, 20.
- Am. J. Sc.—American Journal of Science, New Haven, 1907, v. 23, 24.
- Am. Vet. Rev., N. Y.—American Veterinary Review, New York, 1907, v. 31.
- Analyst, London, 1907, v. 32.
- Analyt. Notes.—Evans Sons Lescher & Webb, Analytical Notes, Liverpool, 1907, 1908.
- Ann. d. Chem., Leipz.—Justus Liebig's Annalen der Chemie, Leipzig, 1907, v. 351-363.
- Ann. de chim. analyt., Par.—Annales de chimie analytique, Paris, 1907, v. 12.
- Ann. de pharm., Louvain.—Annales de Pharmacie, Louvain, 1907, v. 13.
- Ann. Bot., Lond.—Annals of Botany, London, 1907, v. 21.
- Ann. Rep., U. S. Dept. Agric.—Annual Report of the U. S. Department of Agriculture for 1907.
- Apothecary, Boston, 1907, v. 19.
- Apoth. Ztg., Berl.—Apotheker Zeitung, Berlin, 1907, v. 22.
- Arb. a. d. k. Gsundtsamte., Berl.—Arbeiten aus dem kaiserlichen Gesundheitssamte, Berlin, 1907, v. 25-27.
- Arb. a. d. pharm. Inst. d. Univ. Berl.—Arbeiten aus dem pharmazeutischen Institut der Universität Berlin, for 1907, 1908, v. 5.
- Arch. d. Pharm.—Archiv der Pharmazie, Berlin, 1907, v. 245.
- Arch. f. Pharm. og Chem., Copenhagen.—Archiv for Pharmaci og Chemi, Copenhagen, 1907, v. 14.
- Arch. f. exper. Path. u. Pharmacol., Leipz.—Archiv für experimentelle Pathologie und Pharmacologie, Leipzig, 1907, v. 56, 57.
- Arch. internat. de pharmacod. et de therap.—Archives internationales de pharmacodynamie et de thérapie, Brussels & Paris, 1907, v. 17.
- Arch. farmacol. sper., Roma.—Archivio di farmacologia sperimentale e scienze affini, Roma, 1907, v. 6.
- Australas. J. Pharm., Melbourne.—Australasian Journal of Pharmacy, Melbourne, 1907, v. 22.
- Beitr. z. chem. Phys. u. Path., Braunschweig.—Beiträge zur chemischen Physiologie und Pathologie, Braunschweig, 1907, v. 9, 10.
- Ber. d. deutsch. chem. Gesellsch., Berl.—Berichte der deutschen chemischen Gesellschaft, Berlin, 1907, v. 40.
- Ber. d. pharm. Gesellsch., Berl.—Berichte der deutschen pharmazeutischen Gesellschaft, Berlin, 1907, v. 17.

- Biochem. J., Liverpool.—Biochemical Journal, Liverpool, 1907, v. 2.
- Biochem. Centralbl., Leipz.—Biochemisches Centralblatt, Leipzig, 1907–8, v. 6.
- Biochem. Ztschr., Berl.—Biochemische Zeitschrift, Berlin, 1907, v. 3–7.
- Biophysik. Centralbl., Leipz.—Biophysikalisches Centralblatt, Leipzig, 1907, v. 2.
- Bol. Minist. Agric., Buenos Aires.—Boletín del Ministerio de Agricultura, Buenos Aires, 1907, v. 5–8.
- Boll. chim. farm., Milan.—Bolletino chimico farmaceutico, Milan, 1907, v. 46.
- Boston M. & S. J.—Boston Medical and Surgical Journal, 1907, v. 156, 157.
- Bot. Gaz., Chicago.—Botanical Gazette, Chicago, 1907, v. 43, 44.
- Bot. Centralbl., Cassel.—Botanisches Centralblatt, Cassel, 1907, v. 104, 105.
- Bot. Jahrb. Engler, Leipz.—Botanische Jahrbücher, Engler, Leipzig, 1907, v. 39, 40.
- Brit. & Col. Drug., Lond.—British and Colonial Druggist, London, 1907, v. 51, 52.
- Brit. Food J., Lond.—British Food Journal, London, 1907, v. 9.
- Brit. M. J., Lond.—British Medical Journal, London, 1907.
- Bull. Am. Pharm. Ass.—Bulletin of the American Pharmaceutical Association, Chicago, 1907, v. 2.
- Bull. Bur. Chem., U. S. Dept. Agric.—Bulletins, Bureau of Chemistry, U. S. Department of Agriculture, 1907.
- Bull. Bur. Plant Ind., U. S. Dept. Agric.—Bulletins, Bureau of Plant Industry, U. S. Department of Agriculture, 1907.
- Bull. Dept. Agric., Jamaica.—Bulletin of the Department of Agriculture, Jamaica, 1907, v. 5.
- Bull. Hyg. Lab., U. S. P. H. & M.-H. S.—Bulletins of the Hygienic Laboratory, U. S. Public Health and Marine-Hospital Service, 1907.
- Bull. Kansas Bd. Health.—Bulletin Kansas State Board of Health, 1907, v. 3.
- Bull. Pharm., Detroit.—Bulletin of Pharmacy, Detroit, 1907, v. 21.
- Bull. pharm. du sud-est, Montpel.—Bulletin de pharmacie du sud-est, Montpellier, 1907, v. 12.
- Bull. sc. pharmacol., Par.—Bulletin des sciences pharmacologiques, Paris, 1907, v. 14.
- Bull. Soc. de chim., Par.—Bulletin de la Société de chimie de France, Paris, 1907, v. 1.
- Bull. Soc. roy. de pharm. Brux.—Bulletin de la Société royale de pharmacie de Bruxelles, 1907, v. 51.
- Bull. Soc. scient. et méd. de l'ouest, Rennes.—Bulletin de la Société scientifique et médicale de l'ouest, Rennes, 1907, v. 16.
- Bull. Soc. de pharm. de Bordeaux.—Bulletin des travaux de la Société de pharmacie de Bordeaux, 1907, v. 47.
- Bull. Torrey Bot. Club, Chicago.—Bulletin of the Torrey Botanical Club, Chicago, 1907, v. 34.
- Canad. Druggist, Toronto.—Canadian Druggist, Toronto, 1907, v. 19.
- Canad. Pharm. J., Toronto.—Canadian Pharmaceutical Journal, Toronto, 1907, v. 41.
- Chem. Abstr.—Chemical Abstracts, Easton, 1907, v. 1.
- Chem. Eng.—Chemical Engineer, Chicago, 1907, v. 6.
- Chem. News, Lond.—Chemical News, London, 1907, v. 95, 96.
- Chem. Repert., Cöthen.—Chemisch-Technisches Repertorium, Cöthen, 1907, v. 31.
- Chem. Ztg., Cöthen.—Chemiker Zeitung, Cöthen, 1907, v. 31.
- Chem. Ind., Berl.—Chemische Industrie, Berlin, 1907, v. 30.
- Chem. Ztschr., Leipzg.—Chemische Zeitschrift, Leipzig, 1907, v. 6.
- Chem. Centralbl., Berl.—Chemisches Centralblatt, Berlin, 1907, v. 78.

- Chem. & Drug., Australas.—Chemist and Druggist of Australasia, Sydney and Melbourne, 1907, v. 22.
- Chem. & Drug., Lond.—Chemist and Druggist, London, 1907, v. 70, 71.
- Circ. & Agric. J. Roy. Bot. Gard., Ceylon.—Circulars and Agricultural Journal of the Royal Botanic Gardens, Ceylon, 1907, v. 4, Nos. 2–8.
- Circ. Bur. Chem., U. S. Dept. Agric.—Circulars, Bureau of Chemistry, U. S. Department of Agriculture, 1907, Nos. 32–37.
- Compt. rend. Acad. d. sc., Par.—Comptes rendus hebdomadaires des séances de l'Académie des sciences, Paris, 1907, v. 144.
- Compt. rend. Soc. de biol., Par.—Comptes rendus des séances et mémoires de la Société de biologie, Paris, 1907, v. 62, 63.
- Critic and Guide, New York, 1907, v. 8–10.
- Cron. med. mex., Mexico.—Crónica médica mexicana, Mexico, 1907, v. 10.
- Dental Cosmos, Philadelphia, 1907, v. 49.
- D.-A. Apoth. Ztg., N. Y.—Deutsch-Amerikanische Apotheker Zeitung, New York, 1907–8, v. 28.
- Drug Topics, New York, 1907, v. 22.
- Drug. Circ., N. Y.—Druggists Circular, New York, 1907, v. 51.
- Eclectic M. J., Cincin.—Eclectic Medical Journal, Cincinnati, 1907, v. 67.
- Ergeb. d. Physiol.—Ergebnisse der Physiologie, Wiesbaden, 1907, v. 6.
- Exper. Sta. Rec.—Experiment Station Record, U. S. Department of Agriculture, 1907–8, v. 19.
- F. I. D.—Food Inspection Decisions, U. S. Department of Agriculture.
- Geschäfts-Ber.—Caesar & Loretz, Geschäfts-Bericht von, in Halle a. S. 1907.
- Haensel's Half-Yearly Report, Pirna, 1907.
- Hahnemann. Month., Phila.—Hahnemannian Monthly, Philadelphia, 1907, v. 42.
- Handels-Bericht, Gehe & Co., Dresden, 1907.
- Jahresbericht.—Philipp Röder in Wien, Jahresbericht, 1907.
- Jahresb. d. Pharm., Götting.—Jahresbericht der Pharmacie, Göttingen, for 1907, 1908, v. 42.
- Jahresb. ü. Tier-Chem., Wiesb.—Jahresbericht über die Fortschritte der Tier-Chemie, Wiesbaden, 1907, v. 37.
- J. d'Agric. trop., Par.—Journal d'Agriculture tropicale, Paris, 1907, Nos. 67–78.
- J. Am. Chem. Soc.—Journal American Chemical Society, 1907, v. 29.
- J. Am. M. Ass., Chicago.—Journal American Medical Association, Chicago, 1907, v. 48, 49.
- J. Biol. Chem., N. Y.—Journal of Biological Chemistry, New York, 1907, v. 3.
- J. Chem. Soc., Lond.—Journal, Chemical Society, London, 1907, v. 91.
- J. Exper. M., N. Y.—Journal of Experimental Medicine, New York, 1907, v. 9.
- J. Frankl. Inst., Phila.—Journal, Franklin Institute, Philadelphia, 1907, v. 163–164.
- J. Pharm. Soc., Japan.—Journal, Pharmaceutical Society, Japan, 1907.
- J. de pharm. d'Anvers.—Journal de pharmacie d'Anvers, 1907, v. 63.
- J. de pharm. v. Elsass-Lothringen.—Journal der Pharmacie von Elsass-Lothringen, 1907, v. 33 [34].
- J. de pharm. et de chim., Par.—Journal de pharmacie et de chimie, Paris, 1907, v. 25, 26.
- J. de physiol. et de pathol.—Journal de physiologie et de pathologie générale, Paris, 1907, v. 9.
- J. f. prakt. Chem., Leipz.—Journal für praktische Chemie, Leipzig, 1907, v. 75, 76.
- Journal of Physiology, London, 1907, v. 36.
- J. Soc. Chem. Ind., Lond.—Journal, Society of Chemical Industry, London, 1907, v. 26.

- Just's bot. Jahreshb., Berl.—Just's botanischer Jahresbericht, Leipzig and Berlin, 1907, v. 35.
- Lancet, London, 1907, v. 172, 173.
- Medical Record, New York, 1907, v. 71, 72.
- Merck's Ann. Rep., Darmstadt.—E. Merck's Annual Report for 1907, Darmstadt, 1908, v. 21.
- Merck's Arch., N. Y.—Merck's Archives, New York, 1907, v. 9.
- Merck's Rep., N. Y.—Merck's Report, New York, 1907, v. 16.
- Meyer Bros. Drug., St. Louis.—Meyer Brothers Druggist, St. Louis, 1907, v. 28.
- Midl. Drug., Columbus.—Midland Druggist, Columbus, 1907, v. 8.
- Monatsh. f. Chem., Wien.—Monatshefte für Chemie, Wien, 1907, v. 28.
- Nat. Druggist, St. Louis.—National Druggist, St. Louis, 1907, v. 37.
- New Idea, Detroit, 1907, v. 29.
- N. York M. J.—New York Medicinal Journal, 1907, v. 85, 86.
- Nouv. remèdes, Par.—Nouveaux remèdes, Paris, 1907, v. 23.
- Oesterr. Chem.-Ztg., Wien.—Oesterreichische Chemiker-Zeitung, Wien, 1907, v. 10.
- Oil, Paint, and Drug Reporter, New York, 1907, v. 71, 72.
- Pacific Pharmacist, San Francisco, 1907–8, v. 1.
- Paint, Oil and Drug Review, Chicago, 1907, v. 43, 44.
- Pflanzer (Der), Tanga, 1907, v. 3.
- Pharm. Era, N. Y.—Pharmaceutical Era, New York, 1907, v. 37–38.
- Pharm. J., Lond.—Pharmaceutical Journal, London, 1907, v. 24, 25.
- Pharm. Post, Wien.—Pharmazeutische Post, Wien, 1907, v. 40.
- Pharm. Prax.—Pharmazeutische Praxis, Wien and Leipzig, 1907, v. 26.
- Pharm. Rev., Milwaukee.—Pharmaceutical Review, Milwaukee, 1907, v. 25.
- Pharm. Weekblad.—Pharmaceutisch Weekblad, Amsterdam, 1907, v. 43.
- Pharm. Ztg., Berl.—Pharmazeutische Zeitung, Berlin, 1907, v. 52.
- Pharm. Zentralh.—Pharmazeutische Zentralhalle für Deutschland, Dresden, 1907, v. 48.
- P. C. P. Alumni Report.—Philadelphia College of Pharmacy, Alumni Report, 1907, v. 43.
- Philippine J. Sc.—Philippine Journal of Science, Manila, 1907, v. 2. A. B. C.
- Phys.-Chem. Centralbl.—Physikalisch-Chemisches Centralblatt, 1907–8, v. 4.
- Prakt. Chem.—Praktische Chemie, 1907, v. 74.
- Proc. Am. Pharm. Ass.—Proceedings American Pharmaceutical Association, Baltimore, 1907, v. 55.
- Proc. Am. Philosoph. Soc.—Proceedings, American Philosophical Society, Philadelphia, 1907, v. 46.
- Proc. Ass. Off. Agric. Chem.—Proceedings, Association of Official Agricultural Chemists, Washington, 1907, 24 Annual Convention.
- Proc. N. W. D. A.—Proceedings of the National Wholesale Druggists' Association, New York, 1907, 33d Annual Meeting.
- Proc. Roy. Soc., Lond.—Proceedings, Royal Society, London, 1907, v. 79.
- Proceedings of state pharmaceutical associations:
- Proc. Alabama Pharm. Ass., 1907.
 - Proc. Arkansas Pharm. Ass., 1907.
 - Proc. Connecticut Pharm. Ass., 1907.
 - Proc. Florida Pharm. Ass., 1907.
 - Proc. Georgia Pharm. Ass., 1907.
 - Proc. Illinois Pharm. Ass., 1907.
 - Proc. Indiana Pharm. Ass., 1907.
 - Proc. Iowa Pharm. Ass., 1907.
 - Proc. Kansas Pharm. Ass., 1907.
 - Proc. Kentucky Pharm. Ass., 1907.

- Proc. Louisiana Pharm. Ass., 1907.
 Proc. Maine Pharm. Ass., 1907.
 Proc. Maryland Pharm. Ass., 1907.
 Proc. Massachusetts Pharm. Ass., 1907.
 Proc. Michigan Pharm. Ass., 1907.
 Proc. Minnesota Pharm. Ass., 1907.
 Proc. Mississippi Pharm. Ass., 1907.
 Proc. Missouri Pharm. Ass., 1907.
 Proc. Nebraska Pharm. Ass., 1907.
 Proc. New Hampshire Pharm. Ass., 1907.
 Proc. New Jersey Pharm. Ass., 1907.
 Proc. New York Pharm. Ass., 1907.
 Proc. North Carolina Pharm. Ass., 1907.
 Proc. North Dakota Pharm. Ass., 1907.
 Proc. Ohio Pharm. Ass., 1907.
 Proc. Pennsylvania Pharm. Ass., 1907.
 Proc. South Carolina Pharm. Ass., 1907.
 Proc. Tennessee Pharm. Ass., 1907.
 Proc. Texas Pharm. Ass., 1907.
 Proc. Vermont Pharm. Ass., 1907.
 Proc. Virginia Pharm. Ass., 1907.
 Proc. Wisconsin Pharm. Ass., 1907.
 Répert. de pharm., Par.—Répertoire de pharmacie, Paris, 1907, v. 19.
 Rep. Indiana Bd. Health.—Report, 26th Annual, Indiana State Board of Health, 1907.
 Rep. Massachusetts Bd. Health.—Report, 39th Annual, Massachusetts Board of Health, Boston, 1907.
 Rep. Missouri Bot. Gard., St. Louis.—Report, 19th Annual, Missouri Botanical Garden for 1907, St. Louis, 1908.
 Rep. North Dakota Agric. Exper. Sta.—Report, 18th Annual, Pt. II, North Dakota Agricultural Experiment Station, Bismarck, 1907.
 Rev. méd., Chile.—Revista médica de Chile, 1907, v. 35.
 Riedel's Berichte, Berlin, 1907.
 Riedel's Mentor, Berlin, 1907.
 Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich.—Schweizerische Wochenschrift für Chemie und Pharmacie, Zürich, 1907, v. 45.
 Sc. Am. Suppl.—Scientific American Supplement, New York, 1907, v. 63, 64.
 Semi-Ann. Rep. Schimmel & Co.—Semi-Annual Report, Schimmel & Co., Miltitz, 1907.
 Spatula (The), Boston, 1907, v. 13, 14.
 Storrs Station Reports, Connecticut, 1907, 19th Annual.
 Suedd. Apoth. Ztg.—Süddeutsche Apotheker Zeitung, Stuttgart, 1907, v. 47.
 Svensk. farm. Tidskr.—Svensk farmaceutisk Tidskrift, Stockholm, 1907, v. 11.
 Tech. Quart., Bost.—Technology Quarterly, Boston, 1907, v. 20.
 Therap. Gaz., Detroit.—Therapeutic Gazette, Detroit, 1907, v. 31.
 Therap. Monatsh., Berl.—Therapeutische Monatshefte, Berlin, 1907, v. 21.
 Therap. d. Gegenw., Berl.—Therapie der Gegenwart, Berlin, 1907, v. 48.
 Therapist (The), London, 1907, v. 17.
 Tr. Am. Inst. Homoeop.—Transactions American Institute of Homoeopathy, Philadelphia, 1907, 63rd session.
 Tr. Am. M. Ass. Sec. Pharm. and Therap.—Transactions of the Section on Pharmacology and Therapeutics of the American Medical Association, 1907.
 Tropenflanzer (Der), Berlin, 1907, v. 11.

Western Druggist, Chicago, 1907, v. 29.

Year Book of Pharmacy, London, 1907.

Ztschr. d. allg. österr. Apoth.-Ver., Wien.—Zeitschrift des allgemeinen österreichischen Apotheker-Vereines, Wien, 1907, v. 45.

Ztschr. f. anal. Chem., Wiesb.—Zeitschrift für analytische Chemie, Wiesbaden, 1907, v. 46.

Ztschr. f. ang. Chem. Berl.—Zeitschrift für angewandte Chemie, Berlin, 1907, v. 20.

Ztschr. f. anorg. Chem., Hamburg.—Zeitschrift für anorganische Chemie, Hamburg, 1907, v. 52-56.

Ztschr. f. exper. Path. u. Therap.—Zeitschrift für experimentelle Pathologie und Therapie, Berlin, 1907, v. 4.

Ztschr. f. öffentl. Chem.—Zeitschrift für öffentliche Chemie, Plauen i. V., 1907, v. 13.

Ztschr. f. physik. Chem.—Zeitschrift für physikalische Chemie, Leipzig, 1907, v. 56.

Ztschr. f. Unters. Nahr. u. Genussm.—Zeitschrift für Untersuchung der Nahrungs und Genussmittel, Berlin, 1907, v. 13, 14.

Zentrbl. Physiol. u. Path. d. Stoffwechs.—Zentralblatt für die gesammte Physiologie und Pathologie des Stoffwechsels, Berlin und Wien, 1907, v. 2.

2. TITLE ABBREVIATIONS—PHARMACOPŒIAS AND NONOFFICIAL STANDARDS.

Ph. Austr. VIII.—Pharmacopœa Austriaca, editio octava, 1906.

Ph. Belg. III.—Pharmacopœa Belgica, editio tertia, 1906.

Ph. Brit. IV.—British Pharmacopœia, 1898.

Ph. Dan. VII.—Pharmacopœa Danica, 1907.

Ph. Fr. V.—Codex Medicamentarius Gallicus, Pharmacopée Française, 1908.

Ph. Germ. IV.—Arzneibuch für das Deutsche Reich (Pharmacopœa Germanica, editio IV), 1900.

Ph. Helv. IV.—Pharmacopœa Helvetica, editio quarta, 1907.

Ph. Hisp. VII.—Farmacopea oficial española, séptima edición, 1905.

Ph. Hung. III.—Pharmacopœa Hungarica, editio tertia, 1909.

Ph. Ital. III.—Farmacopea ufficiale del regno d'Italia, terza edizione, 1909.

Ph. Japon. III.—Pharmacopœa Japonica, 1906 (English Translation, 1907).

Ph. Ndl. IV.—Pharmacopœa Nederlandica, editio quarta, 1905.

Ph. Norv. III.—Pharmacopœa Norwegica, editio tertia, 1895.

Ph. Port.—Pharmacopœa Portugueza, 1876.

Ph. Rom. III.—Pharmacopœa Romana, editio tertia, 1893.

Ph. Russ. IV.—Pharmacopœa Rossica, editio quarta, 1891.

Ph. Svec. IX.—Svenska Farmakopén (Pharmacopœa Svecica, ed. IX), 1908.

U. S. P. VIII.—Pharmacopœia of the United States, 8th Dec. Rev., 1905.

N. F. III.—The National Formulary of Unofficial Preparations, Baltimore, 1906.

N. N. R.—New and Nonofficial Remedies, Chicago, 1907.

B. P. C.—British Pharmaceutical Codex, London, 1907.

DIGEST OF COMMENTS ON THE PHARMACOPOEIA OF THE UNITED STATES OF AMERICA VIII, AND ON THE NATIONAL FORMULARY III.

I. GENERAL COMMENTS.

1. LEGAL STATUS AND DEVELOPMENT.

1. PURE FOOD AND DRUGS LAW.

Wiley, H. W., points out that the spirit of the food and drugs act is to assure the buyer that the drugs which pass from State to State are pure and up to the standard of strength required, that the proprietary remedies bear the legend which the law requires and that their labels be free from any statement, design, or device which is false or misleading in any particular.—*Am. J. Pharm. Phila.*, 1907, v. 79, pp. 7-10.

An editorial points out that the pure food and drug law is of paramount importance to the drug trade, and that from the standpoint of the public at large and from the immediate benefits to be derived this measure, overshadows all other accomplishments of the Fifty-ninth Congress.—*Oil, Paint and Drug Reporter*, N. Y., 1907, v. 71, Feb. 11, part 2, p. 3.

Carey, John N., asserts that members of the trade realize that the law is not only in the interest of the public who are entitled to pure foods and drugs, but it is also a blessing to honest manufacturers and dealers, because it protects them from the nefarious competition of those whose goods depend for their sale upon fraud and misrepresentation.—*Proc. N. W. D. A.*, 1907, 33d Ann. Meet., pp. 36-37.

Vanderkleed, Charles E., points out that the keynote of the food and drugs act is honesty, and that already we see the tangible evidences of a return to that spirit of frankness which should characterize, more than any other line of business, the buying and selling of medicines for the sick.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 56.

Stallman, A. C., discusses the influence of the federal food and drugs act on the drug trade generally.—*Proc. N. W. D. A.*, 1907, 33d Ann. Meet., pp. 155-157.

A report on the meeting of the American Extract Manufacturers Association calls attention to a number of papers read at the sessions

of that association, severely criticizing the present enforcement of the pure food and drugs law.—*Pharm. Era.*, N. Y., 1907, v. 37, p. 493.

Wiley, H. W., discusses the preparations that have been made for the enforcement of the food and drugs act, and points out that the policy of the drug laboratory is to regard as drugs all ordinary food substances of mineral, plant, or animal origin which are recognized by the medical faculty as having valuable curative properties whenever specifically used for such purposes.—*Ann. Rep. U. S. Dept., Agric.*, for 1907, 1908, pp. 381–393.

An editorial comments on the pure food and drugs act, and points out that the drug trade is probably entering upon an era of pure drug agitation that will make the war tax days of 1898 and 1901 seem tame by comparison.—*New Idea*, Detroit, 1907, v. 29, p. 198.

Francis, John M., expresses the belief that the enactment of the food and drugs act has had a very salutary effect upon the pharmaceutical trade, and while pharmaceutical manufacturers have found it more difficult to procure prime drugs, there has been a distinct improvement in many of the lines of chemical supplies.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 63.

The N. W. D. A. committee on adulterations asserts that:

The preparations of all the members of this association must be above question as to purity. We must therefore exercise all possible care in looking to the sources of our supplies, and insisting upon the purest possible products from every provider at first hand.—*Am. Druggist*, N. Y., 1907, v. 51, p. 256.

Kremers, Edward, is quoted as asserting that the pure food and drugs act is not nearly perfect now, nor is it the best obtainable from a purely theoretical point of view. The act is the result of popular demand and also the compromise product of two clashing interests.—*Pharm. Era*, N. Y., 1907, v. 37, p. 185.

An editorial calls attention to some mistaken notions as to the food and drugs act, and points out a number of things that the law does not do. The law does not prohibit adulteration but does in effect require that statements made on the label be true statements of fact.—*Drug Topics*, New York, 1907, v. 22, pp. 17–18.

An editorial states that one of the effects of the pure food and drugs act has been to put certain illegitimate concerns out of business, and apparently others will share the same fate.—*J. Am. M. Ass.*, 1907, v. 48, p. 425.

An article reprinted from the *New York Times* asserts that the food and drugs law has fully justified the hopes of its friends and the apprehensions of its enemies.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 463.

Hallberg, C. S. N., thinks that section 7 of the food and drugs act means practically that any preparation may be made of any strength, provided the strength is named. He points out that this label requirement applies only to the original large packages of these cheaper

chemicals, and necessarily these labels are never seen by those who may use the chemicals as medicines.—Tr. Am. M. Ass. Sec. Pharm. and Therap., 1907, p. 20.

Lloyd, John Uri, discusses the food and drugs act and points out that in the list of drugs to be regulated by law, embracing more than a hundred items, not one of the drugs introduced by the eclectic fathers is given place.—Eclectic M. J., Cincin., 1907, v. 67, pp. 72-78.

Kebler, L. F., discourses on the interpretation of the word drug and points out that any preparation used, recommended, or advertised for the treatment or prevention of disease will be construed as a drug product.—Am. Druggist, N. Y., 1907, v. 50, p. 35.

A decision by the Secretary of Agriculture provides that a package may be marked so as to comply with the food and drugs law by either pen and ink, stamp, or typewriter, provided all such written or printed matter is distinctly legible and on the principal label as prescribed by regulation 17.—Am. J. Pharm., Phila., 1907, v. 79, p. 248.

An editorial calls attention to the efforts of some manufacturers to use the food and drugs act for purposes of deception, and states that the Secretary of Agriculture has issued a notice stating that the serial number is not a governmental guarantee.—J. Am. M. Ass., 1907, v. 48, p. 1356.

An editorial discusses the validity of the guaranty under the pure food and drugs act, and quotes from an opinion recently published by the Attorney-General.—Am. Druggist, N. Y., 1907, v. 51, p. 386.

An unsigned article comments on the pure food and drugs legislation, the proposed form of State law devised by the National Wholesale Grocers' Association, and outlines some of the pending legislation in the several States.—*Ibid.*, v. 50, p. 73.

Kibler, Ralph Emory, discusses the drugs and their derivatives that are mentioned in the food and drugs act, June 30, 1906, and presents some practical tests for their identification.—Proc. North Carolina Pharm. Ass., 1907, pp. 81-119.

A number of questions and answers on the practical application of the food and drugs act are presented.—New Idea, Detroit, 1907, v. 29, pp. 193-195.

Kebler, Lyman F., presents types of questions and answers relative to the pure food and drugs act of June 30, 1906.—Pharm. Era., N. Y., 1907, v. 27, pp. 29-31.

An editorial comments on the food-inspection decisions concerning the quantity or proportion of preparations containing opium or morphine used in other preparations, also the percentage of alcohol.—Drug Topics, New York, 1907, v. 22, pp. 49-50.

An editorial discusses the food and drugs act and the regulations that have been adopted for its enforcement.—Bull. Am. Pharm. Ass., Chicago, 1907, v. 2, p. 3.

An abstract calls attention to the rules and regulations that have been adopted as a guide in the enforcement of the food and drugs act.—*Pharm. J. Lond.*, 1907, v. 24, p. 24.

Food-inspection decisions 54–83 were issued during 1907. These food-inspection decisions have been reprinted in a number of drug journals, such as *Oil, Paint and Drug Reporter*, *Meyer Bros. Druggist*, and *Pharmaceutical Era*.

2. THE PHARMACOPŒIA AS A LEGAL STANDARD.

Wiley, H. W., in discussing the provisions of the food and drugs act points out that the law is more simple in its provisions concerning drugs than foods. Those that are mentioned in the *Pharmacopœia* or *National Formulary* are required to conform to the standards set up by those two standards, or books, so that here the chemist has no discretion, as the standards are determined by chemical analysis.—*Pharm. Era.*, N. Y., 1907, v. 37, p. 55.

Rusby, H. H., points out that the U. S. P. for many decades was one of the most useless though one of the best books of the kind, and now that it is being put to a really useful purpose its practical defects are shown to be serious, even fatal in some directions, but we may confidently expect that this exposure will lead in the near future to as great a perfection in this direction as this work has always exhibited in purely scientific lines.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 252.

Remington, Joseph P., asserts that after the food and drugs act had been signed manufacturers freely criticised the U. S. P. because for the first time in one hundred years the *Pharmacopœia* touched their pocketbooks. This criticism has made the work of correction and addition easy, and with the approval of the Bureau of Agriculture in Washington, the Secretary of the Treasury, and the Secretary of Commerce and Labor, the committee on revision had to make some corrections in the *Pharmacopœia* in order to make a book on which prosecutions can be based.—*Tr. Am. M. Ass., Sec. Pharm. and Therap.*, 1907, p. 173.

Kraemer, Henry, believes that the passage of the pure food and drugs act must be credited with being the cause of a more critical examination of the *National Formulary* and the *Pharmacopœia* than would otherwise have been the case.—*Am. J. Pharm.*, Phila., 1907, v. 79, p. 246.

Schieffelin, Wm. J., in discussing the testing of drugs by government experts, asserts that dealers will have to stand for any deficiency in pharmaceutical knowledge of the government experts. He asserts that the U. S. P. is far from perfect and that it is important for manufacturers and dealers to have standards that are readily complied with at as early a date as is possible.—*Pharm. Era.*, N. Y., 1907, v. 37, p. 95.

An editorial points out that now that the pure food and drugs law is in active operation and requires so many rulings dependent upon the Pharmacopœia for interpretation, the lack of affinity between the authority of the revision committee and the departments at Washington is all the more pronounced.—*Oil, Paint and Drug Reporter*, New York, 1907, v. 71, April 29, p. 8.

Lyons, A. B., discusses the Pharmacopœia and its standards, the complaints that have been made, the changes needed and the idea of making the Pharmacopœia a government publication.—*Am. Drug-gist*, N. Y., 1907, v. 51, p. 278.

Teeters, W. J., says that by the federal food and drugs law the Pharmacopœia became the national standard by law. It was soon discovered that many of the standards of the Pharmacopœia were too high and impossible of being met owing to existing conditions in the drug and chemical market. The revision committee have issued a long list of corrections which should be pasted in the book.—*Proc. Iowa Pharm. Ass.*, 1907, p. 25.

An editorial discusses the provisions of the pure food and drugs law which permits variations from the Pharmacopœia or National Formulary, providing these variations be properly stated on the label, and calls attention to the possibility of having this provisional clause eliminated in state laws.—*Am. Druggist*, N. Y., 1907, v. 50, p. 320.

Schultze, Louis, asserts that the profession can be justly proud of the position the Pharmacopœia has maintained after a thorough trial. The committee on revision have recently published an extensive list of corrections which the passage of the pure food and drugs act, June 30, 1906, has rendered it advisable to make in the Pharmacopœia. While it is to be regretted that this was necessary, it is only proof of the earnest wish of the revision committee to make the Pharmacopœia a just standard. It was found that many of the standards and requirements were too high and stringent for practical commercial purposes, and these were wisely modified to suit existing conditions over which the committee have no control.—*Proc. Maryland Pharm. Ass.*, 1907, p. 43.

Remington, Joseph P., in a report to the board of trustees explains the reasons and the need for making the corrections in the U. S. P. VIII.—*Meyer Bros. Drug.*, St. Louis, 1907, v. 28, p. 415.

Several communications discuss the interpretations to be placed on the limitations of pharmacopœial titles as indicated in the preface of the U. S. P., p. 39, which provides that only medicinal articles and substances for medicinal purposes are expected to conform to the requirements of the U. S. P.—*Bull. Am. Pharm. Ass.*, Chicago, 1907, v. 2, pp. 83-84.

The additions and corrections to the U. S. P. VIII issued May 1, 1907, are reprinted.—*Am. Druggist*, N. Y., 1907, v. 50, p. 326. (See also other drug journals.)

Main, Thomas F., reports on the efforts that were made by the N. W. D. A. committee on standards and tests of the U. S. P. and N. F., calls attention to a number of the corrections that have been made in compliance with their request, and points out that the U. S. P. committee of revision met the N. W. D. A. committee half way on belladonna leaf, changing the standard from 0.35 to 0.30 mydriatic alkaloids; acceded partially to their request in changing standard of jalap from resin 8 per cent to resin 7 per cent, and fully met their wishes in regard to ipecac root, stramonium and colchicum seed.—*Proc. N. W. D. A.*, 1907, 33d. Ann. Meet., p. 160.

An editorial points out that the relations between the United States Government and the Pharmacopœial Convention are not as well defined as they might be, and that they should be more fully and more generally understood.—*Oil, Paint and Drug Reporter*, New York, 1907, v. 71, p. 8.

Stallman, A. C., in the report of the committee on adulterations, asserts that the health of the public is largely in our hand, for if the people can not depend upon pure drugs when they are prescribed we are in ill case indeed.—*Proc. N. W. D. A.*, 1907, 33d. Ann. Meet., p. 156.

An editorial discusses the validity of changes made in the strength of U. S. P. articles and concludes that the pure food and drugs act was evidently drawn up to cover necessary changes, and that the committee on revision of the U. S. P. is clearly authorized by its instructions from the Pharmacopœial Convention to make such changes as they may find to be necessary.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 289.

An editorial doubts the legality of making additions and corrections to the U. S. P. VIII and asks for opinions on the question, believing that the drug trade should know exactly and without doubt which are the standards to which they must conform.—*Nat. Druggist*, St. Louis, 1907, v. 37, p. 79.

An editorial commenting on changes and corrections in the U. S. P. points out that these corrections are almost entirely confined to the physical constants of chemicals, which would never have been subject to this careful scrutiny but for the fact of the Pharmacopœia becoming the legal standard.—*Bull. Am. Pharm. Ass.*, Chicago, v. 2, p. 197.

A news item reports an interview with Dr. H. W. Wiley, Chief of the Bureau of Chemistry, who expressed his entire willingness to be guided by the Pharmacopœia as modified by the committee on revision. Under Doctor Wiley's construction of the law the changes

that may be made in the Pharmacopœia from time to time will go into force automatically, so far as the execution of the national pure food and drug law by the Department of Agriculture is concerned.—Oil, Paint and Drug Reporter, New York, 1907, v. 71, April 29, p. 55.

Barnard, H. E., summarizes the results of a previous investigation on the status of the drug market and concludes that the retail druggist should observe more care in the preparation of his goods, discard old formulas, buy pharmacopœias of the latest edition, and insist upon guarantees of purity from the wholesaler with whom he deals.—Rep. Indiana Bd. Health, 1907, pp. 183–185.

Whelpley, H. M., asserts that of the present revision of the U. S. P. over 50,000 copies have been sold, more copies than drug stores in this country, and only a short time back only between 5,000 and 10,000 copies were sold of the former revisions.—Proc. Arkansas Pharm. Ass., 1907, p. 68.

A news note reports an amendment to the food and drugs law proposed by Senator Gallinger of New Hampshire, which provides for the recognition of the homœopathic pharmacopœia as being equal to the U. S. P.—Oil, Paint and Drug Reporter, New York, 1907, v. 72, December 9, p. 25.

3. SUPPLEMENT TO THE PHARMACOPŒIA.

At the meeting of the board of trustees of the U. S. Pharmacopœial Convention held on December 8, 1906, the chairman of the committee of revision was authorized to have the plates cut and necessary corrections made in the text of the U. S. P. before further copies were printed for sale.—Meyer Bros., Drug., St. Louis, 1907, v. 28, p. 37.

Good, J. M., asserts that chemists, partially because of the pure food and drugs law, are responsible for the revision of the U. S. P. VIII published in 1907.—Nat. Druggist, St. Louis, 1907, v. 37, p. 64.

Remington, Joseph P., asserts that the corrections and emendations which have been sent in so far have not equalled those which were made in either the revision of 1880 or 1890, and it must be remembered that the previous pharmacopœias were not subjected to severe scrutiny because the tests contained therein were not obligatory upon manufacturers, and, in fact, they were largely ignored.—*Ibid.*, v. 37, p. 90.

An unsigned article points out that the U. S. P. revision committee approves of the N. W. D. A. recommendations, and votes to amend standards and tests of drugs in accordance with the suggestions of the committee of that association.—Am. Druggist, N. Y., 1907, v. 50, p. 109.

Vanderkleed, Charles E., calls attention to the changes that have been made in the text of the Pharmacopœia, and points out that many of these changes are of such a nature as to render of U. S. P. purity and standard many drugs and chemicals on the market which, under a strict application of the original text of the Pharmacopœia were not up to standard. He suggests that familiarity with these changes can best be had by going through the Pharmacopœia, page by page, and marking the correction in the text or in the margins, and that it is only in this way that the changes become intelligible, as the corrections in the pamphlet are listed according to pages and lines and not according to titles.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 58.

An editorial discusses the proposed new edition of the U. S. P. VIII and points out that it is not the intention to issue what is well understood to be a revision of the book, but that all that is contemplated is the publication of a list of corrections and emendations to be furnished, to each purchaser of a Pharmacopœia, at the cost of a 2-cent stamp.—*Nat. Druggist*, St. Louis, 1907, v. 37, p. 79.

An editorial points out that—Yielding to pressure which pharmacists have exerted on them for some time, reinforced by a request from importers and manufacturers, the revision committee of the United States Pharmacopœial Convention has made a few changes in the standards of crude drugs and the galenical preparations into which they enter.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 245.

Remington, Joseph P., reports that the total number of changes of all kinds was 431 in a total of 1,297 articles, test solutions and assays, but of this number, 431, 157 were changes made necessary through the adoption of one change in one part of the book which compelled a similar correction in other parts of the book. A further analysis reveals the fact that the physical constants which had to be changed, such as specific gravity, melting points, boiling points, saponification and iodine value, optical rotation, solubility, congealing point, ash and residue after incineration, amounted to 83.—*Meyer Bros.*, Drug., St. Louis, 1907, v. 28, p. 446.

Sayre, L. E., in discussing the additions and corrections to June 1, 1907, points out that the great majority of the corrections of the Pharmacopœia have been mainly verbal and are of no special importance. There are certain facts, however, that represent concessions to the wholesale trade and the manufacturing chemists, the latter having stated that certain high standards were practically impossible.—*Bull. Kansas Bd. Health*, 1907, pp. 107-108.

Schimmel & Co. (*Semi-Ann. Rep.*, October, 1907, p. 101), state that on the part of the American pharmacopœia committee, supplements to the U. S. P. VIII, have been published on the 1st of May and 1st of June, 1907, which contain partly corrections of various statements and partly additions to the individual articles. In the

case of the essential oils, various alterations have also been made, but unfortunately not to such an extent as, in their opinion, appeared desirable.

An editorial discusses the reasons why the changes in the Pharmacopœia were made, the status of the revision committee and its relation to the federal authorities.—*Oil, Paint and Drug Reporter*, New York, 1907, v. 71, April 22, p. 7.

Stallman, A. C., reports that it is gratifying to learn that the National Formulary and Pharmacopœia will be revised still further, and thus conform to the natural qualities of pure drugs, as demonstrated to the revisers by proper experts.—*Proc. N. W. D. A.*, 1907, 33rd. Ann. Meet., p. 156.

The additions and corrections to the U. S. P. VIII to May 1st, and the supplementary list of June 1, 1907, are reprinted.—*Bull. Am. Pharm. Ass.*, Chicago, 1907, v. 2, p. 247. (See also other drug journals.)

Murray, Benjamin L., in discussing the additions and corrections to June 1, 1907, asserts that revision of the Pharmacopœia by spasmodic proclamation or publication is hardly the ideal method of revision, but that under the existing conditions no better plan is available.—*Merck's Report N. Y.*, 1907, v. 16, p. 247.

Main, Thomas F., is reported as having presented to the board of trustees of the U. S. Pharmacopœial Convention, a communication requesting the publication of annual supplements to the U. S. P. The board of trustees reply that they are without authority to issue such annual supplements.—*Meyer Bros. Drug.*, St. Louis, 1907, v. 28, p. 37.

4. THE PHYSICIAN AND THE PHARMACOPŒIA.

Hatcher, Robert A., in discussing the neglect of the U. S. P. on the part of medical men points out that it must come to be considered a distinction, a privilege, and a duty on the part of delegates to be present and to participate actively in the deliberations of the Pharmacopœial Convention, and that physicians can not escape just censure if they neglect this evident duty.—*Tr. Am. M. Ass. Sec. Pharm. and Therap.*, 1907, p. 169.

Remington, Joseph P., points out that the U. S. P. represents the combined labors of both the medical and pharmaceutical professions and now, since it has become the standard through the enactment of the food and drugs act, there has never been a better time in the history of the United States for physicians and pharmacists to join hands and to embrace this opportunity for perfecting the standard.—*Ibid.*, 1907, p. 15.

Simmons, George H., expresses the hope that the medical profession will have more to say about the next revision than has been the case in the past.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 490.

Hemm, Francis, asserts that the entire therapeutics of the Pharmacopœia and the National Formulary must be dictated by the medical profession.—J. Am. M. Ass., 1907, v. 48, p. 889.

Kraemer, Henry, believes that with the expressed desire of the medical men to assist in selecting those drugs and medicines which shall be admitted into the Pharmacopœia, it only remains for the members of the pharmaceutical profession to provide the descriptions, tests, and methods of preparation.—Drug. Circ., N. Y., 1907, v. 51, p. 487.

Osborne, O. T., for the committee on the U. S. P. of the section on pharmacology and therapeutics of the American Medical Association reported that the U. S. P. though comprehensive and scientific is unpractical for practicing physicians. Among its many disadvantages it contains too many worthless preparations of many worthless drugs. The U. S. P. should be educational, up to date, and offered to the physician in such a size and form as to induce him to buy and use it.—Tr. Am. M. Ass. Sec. Pharm. and Therap., 1907, pp. 200-201.

Remington, Joseph P., thinks that the physicians of this country do not quite grasp the fact that the U. S. P. is the law of the land, and that its first valuation and its greatest function is to provide a standard for purity and for strength.—*Ibid.*, 1907, p. 173.

Bodemann, Wilhelm, discusses the increasing interest of physicians in the Pharmacopœia, and in official preparations and points out the need for pharmacists confining themselves to legitimate pharmacy.—Drug. Circ., N. Y., 1907, v. 51, p. 720.

Good, J. M., in discussing the relation of the physician to the pharmacopœia asserts that the successful diagnostician secures the praise of his professional brethren. The man who not only differentiates diseases but who is able to meet and cure or modify them by the use of the most appropriate remedies receives the gratitude and praise of all.—Nat. Druggist, St. Louis, 1907, v. 37, p. 64.

A book review of the "The Pharmacopœia and the Physician" expresses the belief that this book will go a great way toward interesting the physician in the Pharmacopœia and cause him to be more deeply concerned in subsequent revisions of that work.—Am. J. Pharm., Phila., 1907, v. 79, pp. 233, 234.

Benedict, A. L., outlines general principles for reducing the armamentarium of the physician to practical limitations. Among others: Use active principles whenever satisfactorily available. In general, one salt of an alkaloid or other active base can be selected for universal use. Hundreds of herbs that are merely astringent or have effects that are scarcely demonstrable can be dispensed with. A new drug, such as a synthetic proprietary, representing a minor change of an established one, should not be used.—Critic and Guide, New York, 1907, v. 9, p. 20.

Remington, Joseph P., asserts that much work remains to be done before the physicians of the United States will take much interest in revising the Pharmacopœia.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 85.

Resolutions requesting the more general use of the U. S. P. as a text-book in medical schools were adopted at the meeting of the American Pharmaceutical Association.—Proc. Am. Pharm. Ass., 1907, v. 53, p. 104.

5. U. S. P. CONVENTION REPRESENTATION.

Whelpley, H. M., asserts that the U. S. P. Convention of 1910, which meets at Washington the first week in May of that year, will undoubtedly be the most important convention of the kind ever held. He suggests that state pharmaceutical associations and also state medical societies should send delegates, and these delegates should prepare for the occasion by carefully studying the constitution and by-laws of the convention and familiarizing themselves with the part which they may take in the deliberations.—Proc. Arkansas Pharm. Ass., 1907, p. 67.

An editorial discussing the liability of enlarging the Pharmacopœial Convention, points out that when this change does take place it will behoove the retail drug trade and the practitioners of medicine to see that their interests are not overshadowed, otherwise the Pharmacopœia will become a work of practical value only to the manufacturing and jobbing interests.—Meyer Bros. Drug., St. Louis, 1907, v. 28, p. 91.

Hatcher, Robert A., in discussing the lack of interest that has been evinced by the medical men in the Pharmacopœial Convention expresses the belief that the spirit that has been evinced by pharmacists is worthy of emulation and that they may point with pride to their share of the work.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1907, p. 163.

Hoffmeister, Edward, urges upon the dental profession a closer communion with the U. S. P., to give it the support which is so often denied but which it richly deserves, and expresses the hope that the Pharmacopœial Convention of 1910 may have as representatives of the dental profession, if not delegates from the various colleges and state and district associations, at least members from the National Dental Association, through whom matter of peculiarly dental importance can be submitted.—Dental Cosmos, Phila., 1907, v. 49, pp. 573-577. (For discussion see p. 604.)

Squires, G. Brenton, closes an interesting review of the new Pharmacopœia with the statement that dentistry is recognized as a special branch of medicine, and is represented by 35,000 to 40,000 practitioners in this country. A number of medicinal agents used ex-

tensively by dentists may seldom be used by physicians. Such articles should be made U. S. P. products. For this reason we should be represented in the revision of the Pharmacopœia.—Dental Cosmos, Phila., 1907, v. 49, p. 845. (See also under Additions.)

Maxfield, G. A., thinks the dental profession may make its influence felt through the American Medical Association. As the section on stomatology is entitled to one delegate in the Pharmacopœial Convention, it is for the members of that section to see that they are represented.—*Ibid.*, v. 49, p. 848.

Remington, Joseph P., writing to President M. F. Finley, under date of July 25, 1906, says:

The next convention for the revision of the U. S. P. will assemble in the city of Washington on the first Monday of May, 1910. My personal opinion is that the National Dental Association delegates would be given a welcome at the convention, with the privileges of the floor. I think it would require a resolution passed by the convention to receive the delegates as full members. I would advise writing to the president of the convention, Dr. H. C. Wood, about January, 1910. He will probably authorize the appointment of delegates from your body.—*Ibid.*, v. 49, p. 168.

Rodgers, C. W., thinks the U. S. P. too much behind the times for the progressive dentist to wait for, and questions whether the large manufacturing houses can not and do not put up more reliable preparations than the small druggists working upon a pharmacopœial basis.—*Ibid.*, v. 49, pp. 845-847.

An editorial discusses the desirability of having the Pharmacopœial Convention meet more frequently than once in ten years, and points out that because of the fact that the committee of revision is authorized to issue supplements to the Pharmacopœia an interval of ten years is not too great.—Meyer Bros., Drug., St. Louis, 1907, v. 28, p. 465.

6. COMMITTEE OF REVISION.

Schieffelin, William J., is reported as having pointed out that the mere size of the present committee was one of the most serious objections to it, as its size renders it somewhat unwieldy.—Am. Druggist N. Y., 1907, v. 51, p. 53.

Good, J. M., believes that the revision of the Pharmacopœia can not be undertaken by a smaller committee. "In the multitude of counsellors there is safety." Continuous work on the revision would be advantageous and the present machinery might be improved.—Drug. Circ., N. Y., 1907, v. 51, p. 488.

Remington, Joseph P., points out that the committee of revision labored unceasingly and successfully, on the whole, or the United States Government never would have adopted the book as a standard in the food and drugs act.—Nat. Druggist, St. Louis, 1907, v. 37, p. 90.

An editorial reviewing the making of the U. S. P. expresses the belief that the Pharmacopœia in the future will either be issued under direct government control by a commission representing the retail drug trade, practitioners of medicine, and the medical and analytical chemists, or the National Convention will be recognized in such a manner that the great manufacturing interests and jobbing trade will have a voice in the deliberations and representation in the work of revision.—Meyer Bros. Drug., St. Louis, 1907, v. 28, p. 91.

Tyrer, Thomas, expresses the belief that the constitution and composition (personnel) of the U. S. P. committee is a model worthy serious consideration by the British authorities.—Pharm. J. Lond., 1907, v. 25, p. 137.

Whelpley, H. M., discussing the manner in which the Pharmacopœia is made points out that at the present time of the 26 members of the committee of revision only 5 are actual practitioners of medicine, and 3 out of these 5 are specialists not interested in general medicine.—Proc. Arkansas Pharm. Ass., 1907, p. 66.

Remington, Joseph P., asserts that every one will admit that the medical profession has been grossly negligent of its duties in the past, but that the physicians who were members of the committee of revision of the Pharmacopœia did their duty.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1907, p. 170.

The N. W. D. A., at its annual meeting held in Denver, Colo., adopted resolutions providing:

That it is the sense of this association that there be added to the committee on revision of the Pharmacopœia several chemists of large experience in manufacturing and one or more druggists who are thoroughly familiar with the drug markets of the world.—Merck's Report, N. Y., 1907, v. 16, p. 335.

Main, Thomas F., discusses the necessity for the establishment of a pharmacopœia research laboratory.—Proc. N. W. D. A., 1907, 33d Ann. Meet., pp. 163-164.

Schär, Edward, describes the method of making the Ph. Helv.—Drug. Circ., N. Y., 1907, v. 51, p. 559.

7. VALUE OF CRITICISMS.

Remington, Joseph P., thinks that cooperation of all interested parties should be cheerfully given to make the U. S. P. a book as nearly perfect as possible, and that where there is a spirit of helpfulness on the part of all concerned the ultimate result must be success.—Nat. Druggist, St. Louis, 1907, v. 37, p. 90.

Cohn, Alfred I., thinks that fair, impartial criticism is always in order and always makes for progress. Without it there would be no progress. When, therefore, we disagree with the substance of the text or can offer an improvement it is not alone proper but it is our duty to call attention to the point. If the point has already been

previously considered, well and good, no harm has been done: if new and valuable, a distinct improvement has been effected.—Proc. New York Pharm. Ass., 1907, p. 232.

Good, James M., asserts that during the sixteen months of its official life the Pharmacopœia has received both praise and adverse criticism. Kindly criticism has been invited by the committee.—Pharm. Era, N. Y., 1907, v. 37, p. 80.

Wilcox, R. W., is reported to have said that all criticisms of the Pharmacopœia were welcomed for greater accuracy and the making of a more valuable book. He said that the showing made by the Council on Pharmacy and Chemistry showed that the American Medical Association was totally unfit to undertake the work.—N. York M. J., 1907, v. 85, p. 1095.

An editorial discusses several recent communications on the Pharmacopœia and the importance of developing an active interest in the coming Pharmacopœial Convention.—Bull. Am. Pharm. Ass., Chicago, 1907, v. 2, p. 355.

The N. A. R. D., at its annual convention, adopted the following resolution:

Resolved, That the editors of the various pharmaceutical journals be requested to refrain from publishing criticisms and reflections upon the U. S. P. and N. F. preparations, as such articles seriously hinder us in our propaganda work and tend to place discredit upon the volume in the estimation of the physicians.—Merck's Report, N. Y., 1907, v. 16, p. 306.

An editorial comments on the resolutions adopted by the National Association of Retail Druggists requesting the editors of the various pharmaceutical journals to refrain from publishing criticisms and reflections upon the U. S. P. and N. F. preparations, and points out that it is a very un-American procedure to attempt to suppress legitimate criticism.—Am. Druggist, N. Y., 1907, v. 51, p. 301.

Remington, Joseph P., is reported as asserting that the experiences that have been gained during the past year will be of incalculable value to the committee in its future work. He believes that considerable stress should be laid on the need for standards being such as are attainable and not too high.—*Ibid.*, v. 51, p. 311.

2. SCOPE.

1. NATURE AND CONTENT OF THE PHARMACOPŒIA.

Remington, Joseph P., as chairman of the committee of revision, announces the following changes and corrections in the standards of the U. S. P. VIII:

- Belladonna leaf *now* 0.3 per cent mydriatic alkaloids.
- Belladonna root *now* 0.45 per cent mydriatic alkaloids.
- Colchicum seed *now* 0.45 per cent of colchicine.
- Ipecac *now* 1.75 per cent of ipecac alkaloids.

Stramonium *now* 0.25 per cent of mydriatic alkaloids.
 Fluidextract of Belladonna root *now* 0.4 gm. alkaloids in 100 cc.
 Tincture of Belladonna leaf *now* 0.03 gm. alkaloids in 100 cc.
 Fluidextract of Colchicum seed *now* 0.4 gm. alkaloids in 100 cc.
 Tincture of Colchicum seed *now* 0.04 gm. alkaloids in 100 cc.
 Fluidextract of Ipecac *now* 1.5 gm. alkaloids in 100 cc.
 Fluidextract of Stramonium *now* 0.25 gm. alkaloids in 100 cc.
 Extract of Stramonium *now* 1.0 per cent alkaloids.
 Tincture of Stramonium *now* 0.025 gm. alkaloids in 100 cc.
 Jalap root *now* 7 per cent of total resin.

Under the article Petrolatum, p. 336, U. S. P., last paragraph, the sulphuric acid test has been dropped. February 15, 1907.—Am. J. Pharm. Phila., 1907, v. 79, p. 135.

The corrections and changes authorized by the committee of revision of the U. S. P. and the committee on N. F. of the A. Ph. A., appear in full.—Drug. Circ., N. Y., 1907, v. 51, pp. 436-439. (See also other drug journals.)

Remington, Joseph P., discusses the changes that have been made in the U. S. P. VIII during recent months and the reasons for making them.—Proc. Am. Pharm. Ass., 1907, v. 55, pp. 58-62.

Hopkins, J. L., in an open letter to the chairman of the committee on revision, opposes lowering the U. S. P. standards for crude drugs, and points out that at a time when public sentiment is demanding not merely compliance with established standards, but generally higher standards for all articles sold for the maintenance or protection of human life, any suggestion that the standard for medicine, as established by the U. S. P., be reduced, is, in his judgment, ill-advised and regrettable.—Pharm. Era., N. Y., 1907, v. 37, p. 14.

An editorial calls attention to the list of changes and corrections ordered to be made in the U. S. P. and the N. F. and points out that while these changes are numerous many of them are of minor significance. At the same time some are of great importance and all should be noted in the pages of the books already published; some 50,000 of the U. S. P. and 14,000 of the N. F.—Drug. Circ., N. Y., 1907, v. 51, p. 397.

An editorial points out that notwithstanding the assertion of the revisers that the corrections so far issued were few and unimportant, a scrutiny of the list gives one a contrary impression. The corrections are both numerous and important. A minor criticism in this connection is that the form in which the "corrections" have been sent out is not satisfactory to those who have to use the Pharmacopœia for constant reference.—Am. Druggist, N. Y., 1907, v. 50, p. 351.

An editorial in calling attention to an additional installment of corrections for the Pharmacopœia, points out that a Pharmacopœia is practically useless so long as it is known to abound in errors and one does not know what or where those errors are.—Drug. Circ., N. Y., 1907, v. 51, p. 456.

Dohme and Englehardt discuss some of the changes made in the strength of official substances because articles of the original standard of strength or purity were difficult to obtain. They also assert that in a few instances the requirements are rather lenient.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, pp. 377-381.

Lyons, A. B., discussing the changes in the Pharmacopœia, says: A list of 200 changes looks ugly and the revision committee will be charged with gross carelessness or incompetence or both. I venture to say, however, that no body of men, large or small, could have carried out an undertaking of such magnitude without leaving their work open to equally harsh criticism under the circumstances, *viz.*, of having the book put to an unforeseen use.—*Ibid.*, v. 55, p. 64.

An editorial asserts that the changes that have been made in the U. S. P. have been recognized by the Bureau of Chemistry as being perfectly proper and under the law are considered as being of the same force as the original text of the book.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 346.

Wilbert, M. L., calls attention to the comments on the future trend in pharmacopœial revision that have been discussed in drug journals. All agree that the present Pharmacopœia with all its faults and shortcomings is a credit to American pharmacy and that all future efforts should be concentrated on making the coming revision at least equally if not more representative of the best that American pharmacy is capable of.—*Am. J. Pharm.*, Phila., 1907, v. 79, p. 421.

Hatcher, Robert A., in discussing the miscellaneous nature of the articles now official in the U. S. P. asserts that this condition is not creditable to the medical profession, for it is not the province of pharmacists to decide for physicians what they are to use.—*Tr. Am. M. Ass. Sec. Pharm. and Therap.*, 1907, pp. 162-163.

He thinks it very important that the Pharmacopœia should be in fact, as well as in theory, an authoritative list of remedials. It should represent all that is best in therapeutics.—*Ibid.*, 1907, p. 163.

Remington, Joseph P., suggests that the American Medical Association should appoint a committee to take up the subject of revision of the Pharmacopœia and to prepare a report on drugs and preparations suitable for admission to the next Pharmacopœia.—*Ibid.*, 1907, p. 15.

2. NOMENCLATURE.

An unsigned article (*Bull. Torr. Bot. Club*, 1907, v. 34, pp. 167-178) presents the American code of botanical nomenclature which differs from the Vienna rules in a number of instances, some of which are pointed out in the abstract.—*Just's Bot. Jahresbr.*, Berl., for 1907, 1909, p. 160. (See also p. 161.)

Berlinger, George M., points out that the method of citing botanical sources and authorities by the final addition in brackets of the common or English name of the plant grates harshly on the minds of

those who are accustomed to see and use botanical binomials correctly.—*Am. J. Pharm., Phila.*, 1907, v. 79, p. 360.

The committee on the U. S. P., of the American Medical Association, expresses the opinion that the chemical names are too long for daily use.—*Pharm. J. Lond.*, 1907, v. 25, p. 197.

An editorial suggests that the committee of revision take advantage of the proposed revision of the U. S. P. VIII. and include the names of synthetic chemicals under their identifying titles, their trade names, instead of under chemical titles which few pharmacists and fewer physicians are likely to remember or try to remember.—*Western Druggist, Chicago*, 1906, v. 29, p. 3.

Solis-Cohen, S., states that the name which a new substance receives, such as "phenacetin" is the name by which it should be known and by which it should become official if it does get into the Pharmacopœia; otherwise the name remains proprietary and the text-books become huge advertising machines for the proprietors.—*J. Am. M. Ass.*, 1907, v. 48, p. 197.

Thrash, M. C., points out that a fact that no one can dispute is that a few physicians in the practice of medicine to-day are using the new official names as mentioned in the last Pharmacopœia for such additions as sulphonal, trional, phenacetin, and the like, and the same fact applies to the changes in nomenclature in the old preparations, as for example, few physicians write arsenic trioxidum for acidum arsenosum, phenol for acidum carbolicum, phenylis salicylas for salol, fluidextractum instead of extractum fluidum, and so on.—*Alumni Report, Phila.*, 1907, v. 43, pp. 184-185.

Hoffmeister, Edward, thinks that many salutary changes have been made in the U. S. P. terminology of drugs.—*Dental Cosmos, Phila.*, 1907, v. 49, pp. 573-577.

Good, James M., calls attention to some of the official names of new remedies and the name by which they are more generally known, and says that in comparison with trade names the new names are unwieldy, not readily grasped, and they are not likely to be used.—*Pharm. Era, N. Y.*, 1907, v. 37, p. 79.

An editorial calls attention to the need of an international nomenclature because a substance is often introduced into different countries under different names and because substances have been reintroduced under a different name after having proved a failure under the original name.—*J. Am. M. Ass.*, 1907, v. 48, p. 1680.

"Gnomon" discusses the present-day practice of selling synthetic remedies under fancy names at four or more times the cost of the same substance under its proper chemical name and expresses the belief that when the consumer once becomes conversant with the facts the magic of the fancy name will count for naught.—*Pharm. J. Lond.*, 1907, v. 24, p. 456.

Beringer, George M., thinks the nomenclature and titles in the N. F. should be in harmony with the U. S. P. The titles and synonyms should also be in accordance with a uniform style or rule and in accord with modern ideas and practices.—*Am. J. Pharm., Phila.*, 1907, v. 79, p. 360.

Sharp, Gordon, makes a plea for uniformity in the nomenclature of alkaloids and their derivatives, and deprecates the present-day tendency of adopting the German names for alkaloids and their derivatives.—*Pharm. J. Lond.*, 1907, v. 25, p. 233.

"Gnomon" discusses the paper by Gordon Sharp on the desirability for uniformity in the nomenclature of alkaloids and points out that much of the trouble is doubtless due to mistranslation from the German, as the termination "ine" is not used in Germany for alkaloids and other bases, and the average translator is apt to copy the German spelling of names of chemical substances.—*Ibid.*, v. 25, p. 244.

Hannay, T., in discussing the new remedies that have been admitted to the Ph. Helv. IV points out that the now official titles appear in masquerade and cut comical figures across the page of the book. It seems a pity that instead of trienal, for example, a word of 7 letters, one of 32 has to be employed, viz. "Diäthylsulfonylmethyläthylmethanum." He adds, this is certainly a long way of bridging a difficulty.—*Chem. & Drug. Lond.*, 1907, v. 71, p. 617.

The trade names are included as synonyms in the index of the Ph. Helv. IV.

An editorial discusses the nomenclature of synthetic remedies and quotes from the *British Medical Journal*, which suggests that in order to avoid hopeless confusion some definite agreement on nomenclature appears to be necessary. A great step would be gained if definite means were taken for bringing these alternative names before the medical profession.—*Pharm. J. Lond.*, 1907, v. 24, p. 195.

An unsigned article reviews the nomenclature and requirements for some of the newer remedies in the recently published pharmacopœias.—*Pharm. Ztg., Berl.*, 1907, v. 52, pp. 628-629.

Thomann, J., points out that the Ph. Helv. IV contains many corrections of widely used titles: thus, rhubarb is properly designated rhizoma rhei in place of radix rhei. The designation root is not used unless the preponderating portion of the drug is root.—*Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich*, 1907, v. 45, p. 678.

Hill, C. A., calls attention to some of the misleading names that have been embodied in the B. P. C.—*Pharm. J. Lond.*, 1907, v. 25, p. 634.

Kebler, Lyman F., in discussing some well-known synthetics and their relations to the food and drugs act, calls attention to the fact that manufacturers frequently request permission to use some name

other than that specified, for example, "the monacetyl derivative of anilin," or the structural formula for acetanilid. It is also stated that heroine, codeine, and dionine have been used by manufacturers to avoid the odium attaching to the use of morphine and opium.—*J. Am. M. Ass.*, 1907, v. 48, pp. 1175–1177.

Cabot, Richard C., in discussing some of the mistakes of homœopaths, points out that in naming drugs it is advisable to keep as close as we can to current usage outside the profession and cease to hold ourselves aloof. Let us call a spade a spade; let us call corrosive sublimate by its Christian name rather than by the stumps of two names like merc. corr.; when we mean charcoal, let us not call it carbo.; when we mean sulphur and oyster shells, let us say so, rather than cling to that curious relic "hepar sulph." When one means lime, why should one say calcarea?—*Critic and Guide*, New York, 1907, v. 8, April, p. 19.

3. COST AND SIZE.

The *Pacific Pharmacist* suggests that the price of the *Pharmacopœia* be advanced, say 50 per cent, so as to provide funds wherewith to carry on the work of revision and conduct chemical, microscopical, and other work that may be necessary.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 721.

Hill, Warren B., believes that the *Pharmacopœia* should be a large book, a reference book, one that could be used anywhere. Such a *Pharmacopœia* would be the best adapted to the needs of the country, and then, by making a syllabus or brief of it, the other purpose might be carried out also.—*Tr. Am. M. Ass.*, Sec. Pharm. and Therap., 1907, p. 171.

The Committee of the Section on Pharmacology and Therapeutics of the American Medical Association, believes that the *Pharmacopœia* should be educational, and of such a size and form that the physician may be induced to buy and use it, or, if a large volume must be published to meet the needs of the pharmacist, it is suggested that a smaller volume should be published for the use of physicians and for the instruction of medical students. The committee also recommends the adoption of the international standards of strength for preparations of potent medicaments.—*Ibid.*, pp. 200–201.

4. PUBLICITY.

An editorial asserts that manufacturing chemical and drug houses are anxiously awaiting the delayed report of the U. S. *Pharmacopœia* revision committee on the suggestions and recommendations made by the committee representing the manufacturing trade of the country to the revision committee in Philadelphia last December.—*Am. Drug-gist*, N. Y., 1907, v. 50, p. 145.

The Apothecary (Boston, 1907, v. 19, p. 16) calls attention to the time required by work on the revision of the U. S. P., made necessary by the pure food and drugs act.

The Chemist and Druggist, London, is quoted as saying of the Ph. Russ. that unfortunately the pharmacopœial committee is working with bureaucratic mystery, and does not publish the results of its labors periodically, as is done in other countries. Criticism in anticipation might obviate many such errors as appear in the current work.—*Am. Druggist*, N. Y., 1907, v. 50, p. 187.

An editorial applies the comments of the Chemist and Druggist on the Ph. Russ. to that of the United States, asserts the belief that the revision committee is too large and its methods too secretive for the best results, and concludes that there is too much "bureaucratic mystery" about pharmacopœial revision.—*Ibid.*, v. 50, p. 187.

An editorial says:

We agree with the American Druggist that there is too much bureaucratic mystery about the revision of the Pharmacopœia. Full and open discussion of its labors from time to time as the work progresses, would obviate many of the errors which appear in the finished work.—*Drug Topics*, New York, 1907, v. 22, p. 82.

Remington, Joseph P., discusses the need for popularizing the Pharmacopœia and the peculiar relations held by this book growing out of its use as a legal standard.—*Am. Druggist*, N. Y., 1907, v. 50, p. 195.

5. TIME OF PUBLICATION.

An editorial points out that a serious fault which has been found with the U. S. P. is the length of time which elapses between meetings of the convention and the publication of the volumes issued under the instructions of the convention.—*Am. Druggist*, N. Y., 1907, v. 50, p. 351.

Teeters, W. J., discussing the revision of the Pharmacopœia says the work of the committee is laborious and of necessity slow. Considerable dissatisfaction exists on account of the length of time elapsing between the date of the appointment of the committee and the appearance of the book. It has been suggested from the fact that it is now the government standard, and on account of the various interests involved, that the U. S. P. should be revised by the Government. It will be remembered that at the present time the U. S. P. is the only one not revised under the direction of the Government concerned. The idea of our present method has been that the work would meet more free criticism if revised by persons not holding government authority.—*Proc. Iowa Pharm. Ass.*, 1907, p. 25.

Patton, John F., believes that the long delay in issuing the U. S. P. VIII can be obviated in the future by the convention fixing a time limit for its publication.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 488.

Jensen, P., believes the Pharmacopœia should be issued by the National Government, and says:

The woeful delay, the "messy" and generally unsatisfactory condition of the work leads me to hope that a change may be near at hand.—*Ibid.*, v. 51, p. 490.

The Pacific Pharmacist believes the Pharmacopœia should be published once in five years.—*Ibid.*, v. 51, p. 722.

6. DOSES.

Oldberg, Oscar, discusses the approximate measures used in the administration of medicines, calls attention to the variation in the approximate equivalent for tea, dessert, and table spoonful, and points out that in countries where the metric system is exclusively used full decimal quantities are always specified.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 57.

The committee on the U. S. P. of the American Medical Association asserts that the doses in the metric system are absurd mathematical equivalents and are unsuitable for practical use. The general question of dosage requires revision, as the doses given do not always represent the average doses of drugs and preparations which have a wide range from minimum to maximum.—*Pharm. J.*, Lond., 1907, v. 25, p. 197.

An editorial commenting on the official doses points out the difficulty of determining "what is the dose?"—*Bull. Am. Pharm. Ass.*, Chicago, 1907, v. 2, p. 197.

Hoffmeister, Edward, thinks the establishment of an official average dose fills a long-felt want, when the variability in dosage as evidenced by the result obtained by different investigators is considered.—*Dental Cosmos*, Phila., 1907, v. 49, pp. 573-577.

Good, J. M., in discussing the doses of the U. S. P. VIII, expresses the belief that as designated they are rather *under* the average approximate amount specified in the text books.—*Nat. Druggist*, St. Louis, 1907, v. 37, p. 64.

Nixon, C. F., criticising the U. S. Dispensatory, remarks that the average doses of the Pharmacopœia are of no use to the pharmacist. The important thing for him is the maximum dose.—*Apothecary*, Bost., 1907, v. 19, p. 352.

Hallberg, C. S. N., points out that many of the variations that have been pointed out in the dosage of official articles is due to the fact that in the U. S. P. the attempt has been made to base the dosage of the preparations on the average dose of the drug itself. The dosage of the preparations in the Dispensatory and other similar works has always been designed without reference to the drug strength.—*Tr. Am. M. Ass. Sec. Pharm. and Therap.*, 1907, p. 174.

The Ph. Helv. IV includes a long list of maximum single and daily doses of official substances.

The Ph. Dan. VII includes a list of potent remedies giving the maximum single and the maximum daily doses.

7. ANTIDOTES.

The official antidotes adopted by the California state board of pharmacy, April 24, are reprinted.—Pacific Pharm., San Francisco, 1907-8, v. 1, pp. 146-148.

8. WEIGHTS AND MEASURES.

Oldberg, Oscar, reviews the history of weights and measures in the United States during the past fifty years and calls particular attention to their introduction in the several government medical services.—Drug. Circ. N. Y., 1907, v. 51, pp. 56-57.

The Ph. Helv. IV includes the following list of abbreviations to be used for the weights and measures used: l. = liter; dl. = deciliter; cm.³ = cubic centimeter; dm. = decimeter; cm. = centimeter; mm. = millimeter; kg. = kilogramm; g. = gramm; dg. = decigramm; cg. = centigramm; mg. = milligramm. For microscopic measurements the micro-millimeter or 1/1000 of a millimeter equals 0.501 *mik*.

A circular signed by M. Aristide Briand, member of public instruction, decrees the abbreviations that shall be officially used in all French educational establishments during and after 1907. In the list are the following:

Kilométer	-----	km.
Méter	-----	m.
Milliméter	-----	mm.
Kilogramme	-----	kg.
Gramme	-----	g.
Milligramme	-----	mg.
Kiloliter	-----	kl.
Liter	-----	l.
Milliliter	-----	ml.

(Chem. & Drug. Lond., 1907, v. 70, p. 109.)

An editorial note points out that the word "mil" and its derivatives "decimil" and "centimil" are included in the latest section published of the Oxford English Dictionary, thus: "Mil—Used in pharmacy for milliliter. Proposed (together with decimil for 0.0001 liter, and centimil for 0.00001 liter) by Mr. J. Humphreys (*sic*) in 1904. The three terms were authorized by the board of trade in 1905."—Pharm. J. Lond., 1907, v. 24, p. 51.

Harrison, E. F., discusses the relative value of the "mil" and the abbreviation "c. c.," to indicate the one-thousandth part of a liter, and expresses the hope that the word "mil" will be generally employed in the near future.—*Ibid.*, v. 24, p. 254.

Benoit, Rene, discusses the advantages of the metric system and outlines a plan to help forward the evolution of the use of this system

of weights and measures.—*Midl. Drug. Columbus*, 1906-07, v. 8, pp. 1074-1075.

An editorial in discussing weights and measures points out that a practical application of the metric system is now being made by Kynoch's Ltd. of Birmingham, England, who manufacture all kinds of things, from explosives to soap, and have adopted the metric system exclusively in the various branches of their business.—*Paint, Oil and Drug Rev.*, Chicago, 1907, v. 43, Jan. 9, p. 9.

An editorial discusses the growing use of metric system in manufacturing industries, and points out that the only way to get the benefits of the metric system is to use it.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 523.

Stansfield, J. M., points out the desirability of directing the attention of the medical profession to the use of the metric system in prescription writing.—*Proc. Florida Pharm. Ass.*, 1907, p. 10.

Jolley, W. A., discusses the advantages of the metric system over the present measurements used in medical prescribing and illustrates the convenience of the system by a number of practical examples.—*J. Am. M. Ass.*, Chicago, 1907, v. 48, p. 1718.

A news note calls attention to some of the nonmetric terms still used in French drug trade, noticed in recent catalogues: Norwegian tar is quoted by the "gonne" of 52 kilos; Banyuls, Malaga, and Madeira medicinal wines by the Spanish arroba of 16 liters. British Mitcham peppermint oil is priced per English lb., no metric equivalent being given in this case.—*Chem. & Drug.*, Lond., 1907, v. 71, p. 963.

An editorial points out that the proper way to make the metric system of weights and measures popular and its use more extensive is to acquaint the children now in school with its value and advantages. The use of the "big stick" is necessary at times, but it should be used with much discretion.—*Pacific Pharm.*, San Francisco, 1907-08, v. 1, p. 364.

The *British Food Journal* (Lond., 1907, v. 9, p. 97) notes that the metric system of weights and measures has been made compulsory in Denmark, the new law, so far as the custom-house, excise, and other public authorities are concerned, taking effect three years after the ministerial decree confirming it is published. The public, however, will be permitted to use the old system for a further period of two years.

The *Ph. Dan. VII* includes a table giving the comparative weights and measures of the metric system, the old Danish system, the system in use in Great Britain, and the system in use in the United States.

Wilbert, M. I., points out that the use of alternative weights and measures in the *National Formulary* is most unfortunate and the

source of more evident and glaring errata than all of the other features combined.—*Am. J. Pharm., Phila.*, 1907, v. 79, p. 210.

Beringer, George M., calls attention to the use of the word "troy" ounce in place of "apothecaries" ounce in the N. F. and the frequent occurrence of such unusual quantities as $2\frac{3}{4}$ troy ounces, $5\frac{1}{2}$ troy ounces, and $1\frac{5}{8}$ fluid ounces.—*Ibid.*, v. 79, p. 359.

"Gnomon" calls attention to the variation of dram weights legal in Great Britain and points out that the only dram weight pharmacists are conversant with is a weight which should never be used except in the dispensing of medicines. The legal dram is 1:16 of the imperial ounce.—*Pharm. J. Lond.*, 1907, v. 24, p. 170.

The Decimal Association presents a number of reasons why the metric system is superior to the present heterogeneous system of weights and measures now in use in Great Britain; also points out a number of inaccuracies in connection with the weights and measures now in use.—*Ibid.*, v. 24, p. 217.

Riley, James, in discussing the anomalies of our weights and measures, asserts that the metric system is now in use by no fewer than 32 countries, with a population of 448,000,000 people.—*Ibid.*, v. 24, p. 216.

An editorial discusses the proposed compulsory use of the metric system and points out that the metric units as a whole are no better than ours. The combined population of the 36 countries that have adopted the metric system is 445,296,000, while the combined population of the United States, Great Britain, and Russia, the countries that are not using the metric system, is 587,000,000.—*Paint, Oil, and Drug Rev., Chicago*, 1907, v. 43, May 1, p. 18.

"The International Metric System of Weights and Measures" is the title of a pamphlet published, 1906, by the U. S. Department of Commerce and Labor, Bureau of Standards, to answer some of the more simple questions that are addressed to it regarding the metric system of weights and measures. The pamphlet comprises a total of 16 pages and embodies an outline history of the metric system, an enumeration of its advantages and uses, some comparison of the several units with other weights and measures, and some reference to the present status of the international metric system in the United States.

9. OBJECT AND USES.

Whelpley, Henry M., outlines the definition of a pharmacopœia, gives some history of pharmacopœias generally, a brief history of the U. S. P., and the relation of the Pharmacopœia to the commentaries.—*Western Druggist, Chicago*, 1907, v. 29, pp. 5-8.

Hoffmeister, Edward, says that a common misconception of the scope of the Pharmacopœia consists in the belief that an official drug,

i. e., one receiving pharmacopœial recognition must necessarily be therapeutically efficient; he quotes H. C. Wood on the eligibility of brick dust to pharmacopœial recognition.—*Dental Cosmos*, Phila., 1907, pp. 573-577.

Hallberg, C. S. N., asserts that the U. S. P. is the greatest that has ever been published or issued by any of the forty-odd nations of the world. It is the most complete, most up to date, by far, of any.
* * * It has never been recognized by law, except by state enactments, until this year when it was enacted a law by Congress. Because of this fact many manufacturers have studied the Pharmacopœia very carefully and found that the requirements in certain details were probably a little above that required for medicinal purposes.—*Proc. Arkansas Pharm. Ass.*, 1907, p. 28.

Good, James M., discusses the scope of the U. S. P. and calls attention to some of the changes that are embodied therein. He quotes from the preface of the fifth revision of the Pharmacopœia: "Such a work must necessarily follow in the wake of advancing knowledge; it is no part of its mission to lead in the paths of discovery. It should gather up and hoard for use what has been determined to be positive improvement without pandering to fashion or to doubtful novelties in pharmaceutical science." The present committee of revision has been controlled by the idea herein so well expressed.—*Pharm. Era.*, N. Y., 1907, v. 37, pp. 79-80.

Hatcher, Robert A., in discussing the scope of the Pharmacopœia, asserts that if we can rid the book of all useless material and fill it with all that is best, and only the best, and maintain it at that high standard of excellence, it must inevitably command the admiration and enthusiastic support of the ablest men in the profession.—*Tr. Am. M. Ass., Sec. Pharm. and Therap.*, 1907, p. 164.

The Committee of the Section of Pharmacology and Therapeutics of the American Medical Association recommends that the Pharmacopœia should not be a scientific and historical bibliography of all the antiquated drugs once found to be useful, or even now thought to be valuable in some parts of the United States, but should represent the science and belief of the day when it was printed. Hence, many drugs of the same therapeutic class might be deleted without preventing physicians from ordering them if they pleased.—*Ibid.*, pp. 200-201.

A news item calls attention to the report of the committee appointed by the American Medical Association to make suggestions for the improvement of the U. S. P., and agrees that the recommendations of the committee appear to be reasonable and practical.—*Pharm. J.*, Lond., 1907, v. 25, p. 197.

Remington, Joseph P., points out that the U. S. P. is made for the United States of North America, and that it is more important that the Pharmacopœia be recognized as an authority and used by the

country doctor who is not a professor in a medical college than by a professor in a college, because the professor knows more of the study of pharmacology than the country doctor.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1907, p. 170.

Hatcher, Robert A., points out that while it is true that the Pharmacopœia must serve a diversity of interests, all of which are represented in the direction of its affairs, it is also true that if we are to strive only for the best we shall be forced to do some violence to the ideas of those who through sloth, incompetence, or misfortune are unable to keep step with the march of therapeutic progress.—*Ibid.*, p. 165.

Wilbert, M. I., believes that the U. S. P. should be restricted to drugs that are used in all parts of the United States and should not include drugs used only in one particular section. He points out that if drugs that are not widely used can be demonstrated to have advantages, they will soon be more widely used and will then be eligible for inclusion in the Pharmacopœia.—*Ibid.*, p. 173.

Kraemer, Henry, is pleased to learn that physicians are willing to agree to the fundamental principle enunciated by Dr. Charles Rice, that the members of the medical profession should select the substances which enter into the Pharmacopœia, and that the pharmaceutical profession should provide the descriptions of these substances.—*Ibid.*, p. 174.

Robinson, William J., in discussing the scope of the Pharmacopœia points out that if one book will not do for both pharmacist and physician, then a special abstract should be made for the physician's use.—*Ibid.*, p. 171.

Wilbert, M. I., called attention to the work of Charles Rice and his influence upon the Pharmacopœia, which was changed from a mediocre list of drugs to a truly representative Pharmacopœia largely through his efforts.—J. Am. M. Ass., 1907, v. 49, pp. 1659-1661.

The Druggists' Circular presents the opinions of a number of pharmacists, physicians, and chemists who have responded to its invitation to comment on the subject of a government Pharmacopœia mentioned editorially in.—Drug. Circ., N. Y., 1907, v. 51, p. 487.

An editorial expresses the opinion that the agitation of a possible transfer of the U. S. P. from its present source of inspiration to a federal commission or some other government body is in a large measure ill advised and that the change would be a distinct step backward in the pharmaceutical world.—Pharm. Era., N. Y., 1907, v. 37, p. 145.

Grimbert, L., under the title of "La thérapeutique jugée par les chiffres," gives an interesting ten years' summary of therapeutic progress.—J. de pharm. et de chim., 1907, v. 26, pp. 353-361.

Hommell, P. E., presents a number of suggestions for admissions to the U. S. P.—Proc. New Jersey Pharm. Ass., 1907, p. 62.

10. ADDITIONS AND DELETIONS.

Wulling, Frederick J., calls attention to the list of additions and corrections, and points out that some of the changes in requirements are of considerable importance and apply in a large degree to the assay processes and requirements of potent drugs.—Proc. Minnesota Pharm. Ass., 1907, p. 33.

Blome, Walter H., thinks that some of the additions and corrections adopted by the revision committee ought to have been unnecessary, and adds: "Surely such constants as melting point and solubility have not changed."—Proc. Michigan Pharm. Ass., 1907, p. 65.

Hallberg, C. S. N., in discussing the additions and corrections to the U. S. P. VIII, says: "The changes, as far as the pharmacists are concerned, amount to little, the most important thing being that while there are slight reductions in the alkaloidal strengths of drugs, and their preparations, these changes will make the pharmacopœial standards more easily enforced."—Proc. Arkansas Pharm. Ass., 1907, p. 28.

Schultze, Louis, asserts that none of the corrections of the U. S. P. VIII are of particular interest of themselves, nor do they indicate a deviation on the part of the committee from the high ideal they have followed in the compilation of the Pharmacopœia.—Proc. Maryland Pharm. Ass., 1907, p. 43.

Whelpley, H. M., asserts that the additions and corrections to the U. S. P. VIII are of very little importance to the retail pharmacist and do not necessitate the buying of a new Pharmacopœia. A folder of 6 pages, containing all of the corrections and additions, may be obtained from the selling agents of the U. S. P. at the expense of a 2-cent stamp.—Proc. Arkansas Pharm. Ass., 1907, p. 68.

An editorial points out that it is important that every owner of a Pharmacopœia secure a copy of the leaflets containing the additions and corrections, and note the changes in the U. S. P. VIII, so that he may guard against possible serious error.—Nat. Druggist, St. Louis, 1907, v. 37, p. 160.

Beringer and White in calling attention to the additions and corrections of the U. S. P. VIII, regret that the committee on revision did not have these printed only on one side of the paper, thus saving considerable time necessary to properly note the corrections.—Proc. New Jersey Pharm. Ass., 1907, p. 130.

An editorial commenting on the supplementary list of additions and corrections to the U. S. P., says that the finding of so many errors or omissions in the volume so soon after its publication is not calculated to inspire that degree of confidence which all pharmacists should feel for the legally adopted standard for the preparations named therein.—Nat. Druggist, St. Louis, 1907, v. 37, p. 227.

Squires, G. Brenton, thinks that as nitrous oxide is used more extensively in the dental profession than is ether in the medical profession, it should be made official, so that the dental practitioner may be protected by a standard of purity, etc. Some form of magnesium hydroxide should be made official. Sodium dioxide, trioxymethylene, and other agents used more or less extensively by dentists should be included. Certain peroxide compounds, such as calcium dioxide, strontium dioxide, sodium perborate, and others that give off oxygen when brought in contact with water are being used in tooth powders. The advisability of introducing any of these into the Pharmacopœia should be investigated and decided to a certain extent by dentists.—Dental Cosmos, Phila., 1907, v. 49, p. 845.

Hatcher, Robert A., recommends the deletion of many useless substances which have been retained wholly out of deference to the sentiments of a goodly number of very respectable but not progressive practitioners who use the remedies which their honored preceptors used before them without any definite idea of just what they expect to accomplish thereby.—Tr. Am. M. Ass., Sec., Pharm. and Therap., 1907, p. 165.

11. PURITY AND STRENGTH.

Blome, Walter H., expresses the opinion that it is unfortunate that the revision committee saw fit to impose such very, and in many cases unnecessarily, high standards for drugs and chemicals intended for medicinal use. For chemical purposes the best and purest chemicals are very necessary, but such purity is not demanded for medicinal purposes. Indeed, he thinks, the revision committee has apparently come to the conclusion that some of the demands of the Pharmacopœia as regards purity are unreasonable, and for that reason has reduced the rigidity of the tests to be applied for the examination of such products.—Proc. Michigan Pharm. Ass., 1907, p. 65.

An unsigned article enumerates the chemical substances that are obtainable in three grades, either technical, U. S. P., or C. P.—Drug Topics, New York, 1907, v. 22, p. 25.

The N. W. D. A. committee on standards and tests suggests that the advantages of the cooperation of the Government and its resources may be secured by enlisting the services of the United States consuls through the Department of Commerce in collecting samples and information from all parts of the world, and by utilizing the government laboratories for confirming the tests suggested by the committee on revision of the Pharmacopœia.—Am. Druggist, N. Y., 1907, v. 51, p. 256.

Francis, John M., points out that the specifications of the U. S. P., 1890, were in a large measure absolutely impracticable, and that the

U. S. P. VIII is a very great improvement on its predecessor, as the revision committee paid more heed to the practical processes in manufacturing lines. But even these standards were in many cases too severe and some wholly impossible.—Proc. Pennsylvania Pharm. Ass., 1907, p. 64.

A table showing the drug strength of preparations, the required per cent of alkaloid in standardized drugs, and the per cent strength of the preparations compared with the drug as 100, both in the original edition of the U. S. P. VIII and the same standards corrected to June 1, 1909, is appended.

TABLE OF PERCENTAGE STRENGTH.

Adapted from tables presented by Frank X Moerk.—Proc. Pennsylvania Pharm. Ass., 1906, pp. 157–158:

Names of drugs and preparations.	Grams of drugs in 100 cc of the preparations.	Required percentage of alkaloid (in case of liquids, grams in 100 cc U. S. P. VIII (original).	Percentage strength of the preparations compared with the drug as 100.	Required percentage of alkaloid (in case of liquids, grams in 100 cc) corrected to June 1, 1907.	Percentage strength of the preparations compared with the drug.
Aconite.....		0.5.....	100.0	0.5.....	100.0
Fluid extract.....	100	0.4.....	80.0	0.4.....	80.0
Tincture.....	10	0.045.....	9.0	0.045.....	9.0
Belladonna leaves.....		0.35.....	100.0	0.3.....	100.0
Extract.....		1.4.....	400.0	1.4.....	466.6
Tincture.....	10	0.035.....	10.0	0.03.....	10.0
Plaster.....		0.38–0.42.....		0.38–0.42.....	
Belladonna root.....		0.5.....	100.0	0.45.....	100.0
Fluid extract.....	100	0.5.....	100.0	0.4.....	88.8
Cinchona.....		5 total.....		5 total.....	
Cinchona.....		4 ether-sol.....	100.0	4 ether-sol.....	100.0
Fluid extract.....	100	4 ether-sol.....	100.0	4 ether-sol.....	100.0
Tincture.....	20	0.75 ether-sol.....	18.75	0.75 ether-sol.....	18.75
Coca.....		0.5 ether-sol.....	100.0	0.5 ether-sol.....	100.0
Fluid extract.....	100	0.5 ether-sol.....	100.0	0.5 ether-sol.....	100.0
Colechicum corm.....		0.35.....	100.0	0.35.....	100.0
Extract.....		1.4.....	400.0	1.4.....	400.0
Colechicum seed.....		0.55.....	100.0	0.45.....	100.0
Fluid extract.....	100	0.5.....	91.0	0.4.....	88.8
Tincture.....	10	0.05.....	9.1	0.04.....	8.8
Conium.....		0.5.....	100.0	0.5.....	100.0
Fluid extract.....	100	0.45.....	90.0	0.45.....	90.0
Guarana.....		3.5.....	100.0	3.5.....	100.0
Fluid extract.....	100	3.5.....	100.0	3.5.....	100.0
Hydrastis.....		2.5 hydrastine.....	100.0	2.5 hydrastine.....	100.0
Fluid extract.....	100	2 hydrastine.....	80.0	2 hydrastine.....	80.0
Tincture.....	20	0.4 hydrastine.....	16.0	0.4 hydrastine.....	16.0
Hyoscyamus.....		0.08.....	100.0	0.08.....	100.0
Extract.....		0.3.....	375.0	0.30.....	375.0
Fluid extract.....	100	0.075.....	93.75	0.075.....	93.75
Tincture.....	10	0.007.....	8.75	0.007.....	8.75
Ipecac.....		2.....	100.0	1.75.....	100.0
Fluid extract.....	100	1.75.....	87.5	1.50.....	85.75
Nux vomica.....		1.25 strychnine.....	100.0	1.25 strychnine.....	100.0
Extract.....		5 strychnine.....	400.0	5 strychnine.....	400.0
Fluid extract.....	100	1 strychnine.....	80.0	1 strychnine.....	80.0
Tincture.....	(2 extr.)	0.1 strychnine.....	8.0	0.10 strychnine.....	8.0
Opium gum.....		9 morphine.....	75.0	9 morphine.....	75.0
Granulated.....		12–12.5 mor-phine.....	100.0	12–12.5 mor-phine.....	100.0
Tincture.....	10	1.2–1.25 mor-phine.....	10.0	1.2–1.25 mor-phine.....	10.0
Deod. tincture.....	10	1.2–1.25 mor-phine.....	10.0	1.2–1.25 mor-phine.....	10.0
Powdered.....		12–12.5 mor-phine.....	100.0	12–12.5 mor-phine.....	100.0
Deodorized.....		12–12.5 mor-phine.....	100.0	12–12.5 mor-phine.....	100.0
Extract.....		20 morphine.....	160.0	20 morphine.....	160.0
Opium extract in course of preparation.	50 in 100 grams.	20 morphine.....	200.0		

Names of drugs and preparations.	Grams of drugs in 100 cc of the preparations.	Required percentage of alkaloid (in case of liquids, grams in 100 cc U. S. P. VIII (original).	Percentage strength of the preparations compared with the drug as 100.	Required percentage of alkaloid (in case of liquids, grams in 100 cc) corrected to June 1, 1907.	Percentage strength of the preparations compared with the drug.
Physostigma.....	.....	0.15 ether sol....	100.0	0.15 ether sol....	100.0
Extract.....	.....	2 ether sol....	1333.3	2 ether sol....	1333.3
Tincture.....	10	0.014 ether sol....	9.3	0.014 ether sol....	9.3
Pilocarpus.....	.....	0.5.....	100.0	0.5.....	100.0
Fluid extract.....	100	0.4.....	80.0	0.4.....	80.0
Scopolia.....	.....	0.5.....	100.0	0.5.....	100.0
Extract.....	.....	2.....	400.0	2.....	400.0
Fluid extract.....	100	0.5.....	100.0	0.5.....	100.0
Stramonium.....	.....	0.35.....	100.0	0.25.....	100.0
Extract.....	.....	1.4.....	400.0	1.....	400.0
Fluid extract.....	100	0.35.....	100.0	0.25.....	100.0
Tincture.....	10	0.03.....	8.6	0.025.....	10.0

An editorial points out that standards that have been set for crude drugs by the present committee of revision were impracticable since drugs of pharmacopœial quality could not be obtained in the quantities needed to supply the demand.—*Am. Druggist*, N. Y., 1907, v. 50, p. 351.

An editorial discusses the effect of the reduction of the U. S. P. standards, and points out that the list as published must be regarded as a substantial victory for the drug importers who protested that the U. S. P. VIII standards for certain drugs were demanding an impossibility.—*Nat. Druggist*, St. Louis, 1907, v. 37, p. 123.

Whelpley, H. M., in discussing the additions and corrections to the U. S. P. VIII, points out that they are merely a few changes that concern the manufacturing pharmacists where it has been pointed out that in spite of all care in revising the Pharmacopœia, in a few instances, chemical standards were too high for the manufacturer to comply with. These have been changed so that the chemicals that the pharmacists are now selling will comply with the pure food and drugs law.—*Proc. Arkansas Pharm. Ass.*, 1907, p. 65.

Southall, A. W., in discussing the purity of medicaments points out that the more care the pharmacist takes in regard to the purity of his chemicals and the standardization of his preparations, the more will medical men have confidence in him, and he may rest assured that this confidence will also be shared by the public.—*Pharm. J. Lond.*, 1907, v. 25, pp. 637, 638.

Bernegau, Henry, discusses some of the official standards and tests.—*Am. J. Pharm.*, Phila., 1907, v. 79, pp. 553-556.

12. ATOMIC WEIGHTS.

Dohme, A. R. L., discusses the differences of opinion that have prevailed regarding the desirability of having H=1 or O=16 as the basis of atomic weights, and points out that after eight years of constant strife the majority of the atomic weight commission has finally decided to adopt O=16 as the basis for future work.—*D. -A. Apoth. -Ztg.*, N. Y., 1907, v. 28, p. 147.

Remington, Joseph P., referring to atomic weights says that it is generally known that the value of some of the atomic weights are still matters of controversy, especially in Europe, and it is likely that this controversy will be continued for years before it is settled.—*Nat. Druggist*, St. Louis, 1907, v. 37, p. 90.

Clarke, F. W., presents the report of the international committee on atomic weights with the table offered for 1907.—*J. Am. Chem. Soc.*, 1907, v. 29, pp. 107–111.

The fourteenth annual report of the committee, with the determinations published during 1906, is given.—*Ibid.*, v. 29, pp. 249–262. (See also other chemical journals.)

Richards, Theodore Williams, discusses atomic weights and the factors that must be considered in their determination. These factors he enumerates as: 1. A suitable substance of absolute purity. 2. The combination apart from the substance to be studied can contain only elements of fixed atomic weight. 3. The valence of the several substances must be well defined and fixed. 4. The selected substance must be well suited to assay and its synthesis from weighed portions of constituents possible.—*Ber. d. deutsch. chem. Gesellsch.*, 1907, v. 40, III, pp. 2767–2779.

Erdmann, H., points out the uncertainty in connection with the present international atomic weight table and calls attention to the need for agreeing, for all practical purposes, on the adoption of a table for a period of at least five years.—*Chem. Ztg.*, Cöthen, 1907, v. 40, pp. 95–96.

Brauner, Bohuslav, discusses the development of the atomic theory of Dalton and reviews some of the work that has been done in connection with the determination of atomic weight.—*Ibid.*, v. 31, pp. 483–485.

Watson, H. E. (Univ. Coll., Gower St., *Nature*, 77, 7) presents a study on the recalculation of atomic weights.—*Chem Abstr. Am. Chem. Soc.*, 1908, v. 2, p. 948.

Thomann, J., points out that the atomic weights in the *Ph. Helv. IV* are based on the international atomic weight table $O=16$.—*Schweiz. Wehnschr. f. Chem. u. Pharm. Zürich*, 1907, v. 45, p. 750.

The *Ph. Dan. VII* gives a table of atomic weights based on the international atomic weight table of 1907— $O=16.00$ and $H=1.008$.

Oldberg, Oscar, discusses the importance of a true conception and expression of atomic combining values, and concludes that our common understanding of valence is incomplete and inadequate, and that units of combining value must be counted algebraically, designating the units of hydrogen valence as minus values and those of oxygen valence as plus values in order to bring out their true and full meaning.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, pp. 401–419.

For additional references on atomic weights see Chemical Abstracts.

13. CHEMICAL FORMULAS.

The Ph. Helv. IV includes chemical formulas only in connection with volumetric solutions, not in connection with the official descriptions of chemicals.

The Ph. Dan. VII includes chemical formulas as a portion of the official title.

3. NONPHARMACOPŒIAL STANDARDS.

1. NATIONAL FORMULARY.

An editorial points out that many practically minded pharmacists frequently suggest the practicability of combining the U. S. P. and the N. F., and the editor ventures the opinion that in time such a union of the two works may take place.—Meyer Bros. Drug., St. Louis, 1907, v. 28, p. 415.

Lilly, J. K., believes that the National Formulary should be abolished, and thinks that the Pharmacopœia should eventually be a government publication, especially if it is to remain the standard or basis for the federal drugs act.—Drug. Circ., N. Y., 1907, v. 51, p. 561.

Stansfield, J. M., thinks the various formulæ of the National Formulary are on probation and if they stand the test of time will be transferred to the U. S. P. He also thinks that at least some of them are old enough and of sufficient merit to be "translated at once."—Proc. Florida Pharm. Ass., 1907, p. 10.

Whitney, D. V., presents a review of the National Formulary and calls attention to some of the changes that are embodied in that book.—Proc. Missouri Pharm. Ass., 1907, pp. 149-151.

Hommell, P. E., asserts that the National Formulary as it now appears is quite acceptable and contains formulas for elegant, palatable, and official remedies, which, when properly exhibited, will yield good results.—Proc. New Jersey Pharm. Ass., 1907, p. 17.

Diehl, C. Lewis, points out that the interest in the N. F. awakened by its inclusion in the food and drugs act has aroused interest that has manifested itself in part in numerous and, in some instances, harsh criticisms, but in the main the N. F., now that it has acquired the distinction of an authoritative standard, has been accepted with favor by both professions.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 69.

Thrush, M. C., presents some notes on the N. F. III and points out that "preparations are first introduced into the National Formulary through the committee appointed by the American Pharmaceutical Association, and, if they prove satisfactory and become popular with the physicians, they are then added to the Pharmacopœia at a future revision."—P. C. P. Alumni Report, Phila., 1907, v. 43, p. 186.

Wilbert, M. I., discusses the scope and shortcomings of the National Formulary, reviews some of its history, and points out that the recognition of this book as a standard under the food and drugs act

gives to it a standing quite different from that intended for it by the original compilers.—*Am. J. Pharm., Phila., 1907, v. 79, pp. 205-212.*

Beringer, George M., discusses the National Formulary as a legal standard and points out some of its defects. He particularly deplores the desire of the authors to extend the work beyond reasonable bounds.—*Ibid., v. 79, pp. 357-365.*

Scoville, Wilbur L., points out that the provisions of the food and drugs act of June 30, 1906, make it a misdemeanor to change the formula of any pharmacopœial or National Formulary preparation in any way without stating the deviation on the label of the preparation. This fact makes slight imperfections in the formulas of greater importance than ever before, and it is therefore to the interest of pharmacists that all formulas in these works be as universally acceptable as it is possible to have them.—*Drug. Circ., N. Y., 1907, v. 51, pp. 294-295.*

Good, James M., reviews the National Formulary and discusses some of the preparations.—*Meyer Bros., Drug., St. Louis, 1907, v. 28, p. 131.*

Diehl, C. Lewis, discusses the nomenclature of compound preparations in the National Formulary and points out that the objections made by Kebler are not well founded.—*Bull. Am. Pharm. Ass., Chicago, 1907, v. 2, pp. 80-82.*

A discussion relating to the use of the National Formulary text in commentaries and similar books is reprinted.—*Ibid., v. 2, p. 7.*

An editorial commenting on the restriction of the use of the text of the National Formulary expresses the belief that the American Pharmaceutical Association would be rendering a greater service to pharmacy by putting the text at the disposal of any dispensatory maker who would agree to comment upon it.—*Drug. Circ., N. Y., 1907, v. 51, p. 248.*

The report of the meeting of the Chicago Branch of the American Pharmaceutical Association contains a number of improved formulas for pharmacopœial and National Formulary preparations.—*Am. Druggist, N. Y., 1907, v. 51, p. 394.*

An editorial discusses some recent comments on criticisms of the National Formulary, and points out that good healthy criticism never did anybody any harm, and that it is most important that pharmacists should be made aware of any defects that may exist in the book. Moreover, it is right that this information should be placed before them, and in as public a manner as is possible.—*Ibid., v. 51, p. 131.*

Ferrel, O. L., presents some comments on the National Formulary.—*Proc. Texas Pharm. Ass., 1907, pp. 73-74.*

McKee, E. S., calls attention to the needs for pharmacists studying the N. F. III, and records some of his experience.—*Meyer Bros. Drug., St. Louis, 1907, v. 28, p. 7.*

An editorial discusses the object and the uses of the National Formulary and points out the need for pharmacists becoming acquainted with the object and the contents of this book.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 341.

Thomas, D. J., expresses the belief that the rank and file of pharmacists are not prepared to meet the demands for U. S. P. and N. F. preparations.—*Am. J. Pharm.*, Phila., 1907, v. 79, p. 296.

Wilbert, M. I., recalls that the late Charles Rice, the chairman of the first Committee on National Formulary, objected to the inclusion of formulas for preparations equivalent to well-known proprietaries, and points out that on this question there was still a decided difference of opinion.—*Ibid.*, v. 79, p. 244.

Good, James M., points out that the insertion of superfluous or less-desirable formulas is due to the fact that the work is to include all preparations for which there is a reasonable demand. The excuse for inserting these is that "physicians want them."—*Meyer Bros. Drug.*, St. Louis, 1907, v. 28, p. 131.

Hatcher, Robert A., points out that the argument that it is necessary to have authoritative standards for many articles in domestic use has lost much of its force, so far as it applies to the Pharmacopœia, since the National Formulary has been clothed with legal authority, and that work should relieve the Pharmacopœia of this hindrance to its upward progress.—*Tr. Am. M. Ass. Sec., Pharm. and Therap.*, 1907, p. 165.

The changes and corrections that have been adopted for the National Formulary are reprinted.—*Bull. Am. Pharm. Ass.*, Chicago, 1907, v. 2, pp. 155-158. (See also other drug journals.)

Caldwell, Paul, presents a list of National Formulary preparations and the approximate percentage of alcohol contained in each of the alcohol-containing compounds.—*Drug. Circ.*, N. Y., 1907, v. 51, pp. 202-206.

A number of formulas from the addendum of the Ph. Austr. VIII are reprinted.—*Pharm. J. Lond.*, 1907, v. 24, p. 25.

"M. P. S." presents a number of formulas from a pamphlet entitled "Prescriptiones Viennenses" for compound pharmaceuticals to replace some of the many proprietary preparations now sold in Austria.—*Ibid.*, v. 24, pp. 103-104.

Gadd, H. Wippell, believes that the multiplicity of formulas in the B. P. C. is confusing and that it would be very difficult indeed for a physician to steer his way through this maze of closely related formulas and be able to specify in a manner intelligible to a dispenser what he really wants.—*Brit. and Col. Drug. Lond.*, 1907, v. 52, p. 389.

F. I. D., 59, announces that the formulas in the appendix of the National Formulary are not to be construed as being a part of that

book; such articles, however, are subject to the law in every other respect, such as is the case of products not recognized by the U. S. P. or the N. F.

2. NEW AND NONOFFICIAL REMEDIES.

The Council on Pharmacy and Chemistry describes a number of new and nonofficial remedies.—*J. Am. M. Ass.*, 1907, v. 48, pp. 51, 141, 227, 329, 421, 523, 611, 697, 797, 877, 948, 1031, 1109, 1185, 1351, 1866.

Sadtler, Samuel P., discusses the work of the Council on Pharmacy and chemistry of the American Medical Association and the conditions prevailing at the time of its formation.—*Am. J. Pharm., Phila.*, 1907, v. 79, pp. 22–28.

Schultze, Louis, asserts that the work of the Council on Pharmacy and Chemistry of the American Medical Association has proved itself a factor worthy of consideration in the present readjustment of pharmaceutical conditions. It has fearlessly attacked the sham preparation of whatever origin, and is thereby contributing largely to the realization of "ethical pharmacy."—*Proc. Maryland Pharm. Ass.*, 1907, p. 44.

Stengel, Alfred, in discussing the work done by the Council on Pharmacy and Chemistry, pointed out that while physicians had been remiss in allowing themselves to be imposed upon by detail men, pharmacists had also been remiss in not keeping physicians informed of the misleading statements that were being made in connection with many supposedly new remedies.—*Am. J. Pharm., Phila.*, 1907, v. 79, p. 46.

Thum, John K., in discussing the work of the Council on Pharmacy and Chemistry, asserts that the work of the council has resulted in a more widespread interest on the part of physicians in the Pharmacopœia and the National Formulary and that this alone should secure for it the unqualified indorsement and support of pharmacists.—*Ibid.*, v. 34, pp. 34–35.

Remington, Joseph P., is quoted as asserting that the American Medical Association during the past year has done a great service in pointing out the nonsecret and ethical preparations, and he congratulates it on behalf of the American Pharmaceutical Association for the good work it has done.—*Merck's Arch., N. Y.*, 1907, v. 9, p. 372.

An editorial discusses the work of the Council on Pharmacy and Chemistry of the American Medical Association and announces the first publication of N. N. R.—*Pharm. J. Lond.*, 1907, v. 24, p. 487.

NEW REMEDIES.

Simmons, George H., discusses the "Commercial domination of therapeutics and the movement for reform," tracing the rise of the nostrum evil and the efforts of the American Medical Association to

cope with it through the Council on Pharmacy and Chemistry.—J. Am. M. Ass., 1907, v. 48, pp. 1645–1653.

Hynson, Henry P., traces the use of proprietaries by physicians during the previous fifty years. He discusses their uncertainty, unreliability, and pretended originality and other objections to them and states that the remedy is to be found in mutual help from the physician and the pharmacist.—*Ibid.*, v. 48, pp. 1243–1245.

Bok, Edward, discusses the "Physician and the nostrum."—*Ibid.*, v. 48, pp. 688–691.

The committee on new remedies discusses some of the new remedies introduced during the year and presents an alphabetical list of these remedies.—Proc. New York Pharm. Ass., 1907, pp. 247–261.

Robinson, Beverly, discusses the widespread use of proprietary medicines and emphasizes the opinion that nearly all proprietary medicines are mysterious and that at least some are humbugs.—Med. Rec., N. Y., 1907, v. 71, pp. 141–142.

An editorial calls attention to the confusion in nomenclature regarding new remedies and the efforts which are being made to apply group suffixes indicative of the action.—Brit. M. J., 1907, v. 1, p. 398.

Zernik, F., reviews the more important new remedies of 1906 and again calls attention to the evident need for an impartial testing of all new remedies before they are permitted to be exploited for general use.—Ber. d. pharm. Gesellsch., Berl., 1907, v. 17, pp. 81–102.

Rabow, S., reviews the new remedies introduced during the year 1906 and presents a table in which these remedies are arranged according to their reputed therapeutic indications.—Chem. Ztg., Cöthen, 1907, v. 31, pp. 154–159, 172–173, 203–204, 265–268.

Lüders, Richard, reviews the advances in pharmaceutical chemistry and discusses the new remedies introduced in the year 1906, classifying them under their physiological or therapeutic uses.—Chem. Ind., Ber., 1907, v. 30, pp. 354–363, 390–397.

Riedel's Mentor (Berlin, 1907, pp. 79–125) presents a list of newer remedies with some indication as to their composition.

LaWall, Charles H., discusses the effect of publicity on the standing and use of new and nonofficial remedies.—Am. J. Pharm., Phila., 1907, v. 79, pp. 29–33.

An editorial discusses the multiplication of names as trade-marks for individual chemical substances.—Am. Druggist, N. Y., 1907, v. 50, p. 128.

Solis-Cohen, S., discusses the "Limits of proprietorship in materia medica, how far necessary, how far permissible, and how controllable."—J. Am. M. Ass., 1907, v. 48, pp. 195–198.

Horlick, A. J., in the report of the committee on trade-marks, reviews the regulations that are enforced in many of the foreign countries.—Proc. N. W. D. A., 1907, 33rd Ann. Meet., pp. 123–143.

Leverett, J., discusses several questions pertaining to the use of the Pharmacopœia by physicians, and the reasons for the use of non-official remedies in the practice of medicine.—N. York M. J., 1907, v. 85, p. 858.

SYNTHETICS.

Wainwright, J. W., discusses the development of chemical synthesis as applied in the production of remedial agents.—Med. Rec., N. Y., 1907, v. 72, pp. 678–682.

Schweitzer, Hugo, presents an interesting historical memoir bearing on the accidental discoveries of chemistry.—Am. Druggist, N. Y., 1907, v. 50, pp. 192–194.

Kebler, Lyman F., discusses the relation of some of the well-known synthetic chemicals to the pure food and drugs act.—J. Frankl. Inst., Phila., 1907, v. 163, pp. 303–310.

Gösling, W., reviews the evolution of the synthesis of medicinal substances, the rapid growth in importance of chemistry, and the nature and composition of the more widely used antipyretics which he classes as being related to or substitutes for the three typical combinations of pyrazolon, aniline and para amidophenol, antipyrine, acetanilide, and phenacetin.—Apoth. Ztg., Ber., 1907, v. 22, p. 741.

4. ANALYTICAL DATA.

1. ADULTERATIONS.

Vanderkleed, Charles E., in discussing the adulteration of drugs points out that the term “adulteration” has come to possess a secondary and broader sense, including therein the meaning of “inferiority,” whether produced intentionally or as a result of what may be styled, for lack of a better expression, “natural causes.” He points out that the law of supply and demand knows no exceptions, and so long as there are customers who will not pay the cost of first-class drugs there will be found plenty of dealers who will supply inferior drugs at lower prices.—Proc. Pennsylvania Pharm. Ass., 1907, p. 56.

Southall, A. W., in discussing the purity of chemicals points out that the dictionary definition for the word purity is “free from all heterogeneous or extraneous matter,” and also points out that chemicals are offered in varying degrees of purity, according to what it is intended to use them for. Generally speaking, we are continually finding out certain impurities in very small quantities in chemicals.—Chem. & Drug., Lond., 1907, v. 71, p. 765.

Hankey, William T., in discussing the frequent adulteration of chemicals points out the need for careful and conscientious laboratory control: even samples sent out guaranteed under the food and

drugs act will not always comply with the requirements made of them.—Proc. Pennsylvania Pharm. Ass., 1907, p. 72.

Good, James M., thinks that chemicals should be *medicinally* pure, not necessarily *chemically* pure. The latter is necessary only in preparing chemical reagents. Absolute purity (that is perfection) is difficult of attainment in any direction or in any matter.—Nat. Druggist, St. Louis, 1907, v. 37, p. 64.

Bryant, Joseph D., said, in discussing the need of honest drugs, that a recent report to the New York board of health shows that a number of drugs were found to vary widely from the official requirement.—J. Am. M. Ass., 1907, v. 48, p. 1913.

An editorial calls attention to the annual report of the local government board for England and Wales and presents some interesting data on the adulteration of drugs and medicinal substances. A table giving the number of samples examined and the number found adulterated or not up to the standard is reproduced.—Chem. & Drug., Lond., 1907, v. 71, p. 828.

2. REAGENTS.

The Ph. Helv. IV includes a comprehensive list of reagents, volumetric solutions, indicators, and reagents for use in connection with clinical work.

The Ph. Dan. VII presents tabulated lists of reagents, volumetric solutions, and of the necessary apparatus to apply the official tests.

Coblentz, Virgil, asserts that the U. S. P. tests are nearly all as perfect as our present knowledge of science can make them and represent the result of many years of experience.—Pharm. Era., N. Y., 1907, v. 37, p. 95.

Murray, Benjamin L., points out that an evident defect of the U. S. P. VIII is the unnecessary multiplication of tests for chemical substances.—Merck's Report, N. Y., 1907, v. 16, p. 248.

Whelpley, H. M., asserts that our Pharmacopœia differs from many others in giving chemical tests that can be followed by pharmacists who have limited laboratory facilities.—Proc. Arkansas Pharm. Ass., 1907, p. 66.

Wulling, Frederick J., calls attention to the need for adding a set of reagents and the necessary apparatus for applying the several pharmacopœial tests to the equipment of the pharmacist. He believes that this is not alone desirable but an actual necessity as a means of self-defense.—Proc. Minnesota Pharm. Ass., 1907, p. 34.

White, Edmund, presents a series of articles dealing with the reagents in frequent demand for analytical purposes, and discusses the trade varieties of the several compounds indicating what may be expected of the ordinary or technical varieties met with in trade.—Pharm. J., Lond., 1907, v. 24, p. 404. (See also v. 25, p. 104.)

v. Waldheim, Max, presents a compilation of reagents and reactions arranged alphabetically according to the author's name. The compilation appears as a supplement to "Pharmazeutische Praxis" for 1907, and is paged separately.

3. INDICATORS.

Rupp and Seegers assert that phenolphthalein, being a slowly dissociated indicator acid, does not readily respond to the influence of weak bases like ammonia and the alkaloids, and that for these substances indicators more sensitive to weak alkalies must be used. They discuss the composition of several phenolphthalein compounds and their possible uses as indicators.—Apoth. Ztg., Berl., 1907, v. 22, pp. 748-750.

Margosches, B. M., presents some observations on the alkali salts of phenolphthalein and on the behavior of phenolphthalein to alkaline solutions of high concentration, and shows that with an excess of highly concentrated alkali solution colorless alkali combinations of phenolphthalein are formed.—Ztschr. f. ang. Chem., Berl., 1907, v. 20, pp. 181-191, 226-231.

Rohland, P. (Techn. Hochschule, Stuttgart, Ber., 40, 2172-2174), states that according to the chromophoric theory, the decolorization of phenolphthalein depends on the formation of a lactone ring, although some authors state that it depends on the resolution of this complex. In any case, the regeneration of the color by diluting a strongly alkaline solution tells against this theory. Similar difficulties are met with in the case of methyl orange. On the other hand, all the facts are in harmony with the idea that the negative ion of phenolphthalein is red and the undissociated compound colorless, whereas the methyl orange ion is yellow and the undissociated compound red. Moreover, the ionic theory is in harmony with the law of mass action.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 2586.

Aymerich, J. Prats (An. Soc. Espan. fis. y quim. mars., 1907), thinks Congo red as an indicator, in the form of a solution or of reagent paper, is highly to be recommended for strong bases and acids, and always preferable to methyl orange.—Répert. de pharm. Par., 1907, v. 19, p. 316.

For certain weak acids, not diluted (with the exception of boric and phenic acids), Congo paper serves better, especially in the tincture industry, the two colors, blue (with acids) and red (with alkalies) are much more distinct and differentiable than the corresponding colors and changes obtained with tournesol.—*Ibid.*, v. 19, p. 316.

Chrysoidine, in spite of its extraordinary sensitiveness for strong acids, is not convenient of application in the appreciation of the change from yellow (color of the neutral or alkaline solution) to orange.—*Ibid.*, v. 19, p. 316.

4. PHYSICAL CONSTANTS.

Seidell, Atherton, points out that many of the statements regarding physical constants of chemical compounds are based upon inaccurate or careless determinations and are therefore incorrect and misleading. This is particularly true of solubility determinations.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, pp. 469–478.

Thomann, J., points out that physical constants—specific gravity, melting point and boiling point—are important indications of the identity or purity of chemical substances.—*Schweiz. Wehnschr. f. Chem. u. Pharm. Zürich*, 1907, v. 45, p. 715.

Bingham, E. C., has tested the miscibility or immiscibility of a large number of pairs of liquids and finds that substances of small molecular volume are often immiscible with other substances of large molecular volume. He points out that the presence of small amounts of water may often account for the immiscibility of substances. The possibility of utilizing this fact in obtaining a test for dehydration is suggested.—*Am. Chem. J.*, 1907, v. 37, pp. 549–557.

In a second paper he goes into the subject extensively and gives tabulated statements of his results.—*Ibid.*, v. 38, pp. 91–118.

SPECIFIC GRAVITY.

The *Ph. Helv.* IV directs that, unless otherwise specified, specific gravity is to be determined at 15° C.

Philipp Röder (*Jahresbericht*, Wien, 1907, p. 11) points out that specific gravity of liquids is usually best determined by means of the Westphal balance, and it is only with volatile, fuming, and dense substances like oils or balsams that the pycnometer is needed.

Lyons, A. B., asserts that while the Pharmacopœia presumes that pycnometers calibrated at 25° C. can be easily procured, his experience is that instrument makers in America can not be trusted to supply such apparatus.—*Pharm. Rev. Milwaukee*, 1907, v. 25, p. 356.

Miller, J. H., in discussing the need for a pharmacopœia of a more imperial character, points out that the standard temperature for taking specific gravity is 60° F., and that it is quite impracticable to take frequent specific gravities at that temperature in Natal. The U. S. P. VIII has adopted a standard temperature of 77° F. In an imperial pharmacopœia a set of tables ought to be included, giving specific gravities of standard preparations at different temperatures.—*Pharm. J. Lond.*, 1907, v. 24, p. 789.

An editorial discusses the remarks by Miller, and points out that it is not necessary to go so far afield as Natal; even an average British summer is a severe tax on the patience of the working pharmacist in the matter of specific gravity and temperature. The

range of temperature might be given as from 10° to 25° C.—*Ibid.*, v. 24, p. 802.

Lyons, A. B., discusses the specific gravity of some official liquids at different temperatures, and gives a comprehensive table including many of the official substances, giving the specific gravity at 25°, at 15°, and the corrections necessary for each 1° C.—*Am. Druggist*, N. Y., 1907, v. 51, p. 303.

Alcock, F. H., describes a method for the determination of the specific gravity of substances, of essential oils, and other liquids which are available only in small quantities.—*Pharm. J. Lond.*, 1907, v. 24, p. 6.

SOLUBILITIES.

The Ph. Helv. IV outlines a method for determining the solubility of preparations; the solubility determinations are to be made at 15° C.

Magie, William Francis, discusses the association theory of solutions and reviews some of the theories that have been advanced.—*Proc. Am. Philosoph. Soc.*, 1907, v. 46, pp. 138-145.

Lumsden, John Scott (Univ. Coll. Dundee, *J. Chem. Soc.*, 91, 24-35), asserts that the molecular volumes of a number of organic substances when dissolved in different organic solvents were determined at temperatures from 10° to 100°. The results indicate that in the cases studied the volume occupied by a substance in solution is nearly the same as the volume of the pure substance as a liquid at the same temperature, differing from it, however, by the same amount at all temperatures.—*Chem. Abstr. Am. Chem. Soc.*, 1907, v. 1, p. 956.

Sutherland, W. (*Phil. Mag.* (6) 12, pp. 1-20, 1906), discusses the molecular constitution of aqueous solutions from the point of view that water consists of a mixture of trihydrol (H_2O)₃ and dihydrol (H_2O)₂, ice being pure trihydrol, water at its critical temperature being nearly pure dihydrol, while aqueous vapour is hydrol (H_2O).—*Physikal. Chem. Centralbl.*, 1907, v. 4, pp. 455-456.

Centnerszwer, M. (*Riga. Physik. chem. Lab. Polytech. Inst. Z. Physik. Chem.*, 61, 356-65), made a comparative study of the effect of the nature of the solvent on the molecular elevation of the critical temperature of a solution which showed: (1) That the relative molecular elevation of the critical temperature corresponds only approximately to the constant value 3, required by van't Hoff formula and is dependent further on the nature of the solute and the solvent; (2) the value of this constant decreases as the critical temperatures of the two constituents approach each other. The conclusions are based on experiments with seven solvents and ten solutes.—*Chem. Abstr. Am. Chem. Soc.*, 1908, v. 2, p. 612.

MELTING POINT DETERMINATIONS.

The Ph. Helv. IV outlines a method for determining the melting point of substances, also gives general directions for preparing substances for the determination of melting points.

The Ph. Dan. VII also outlines the method for determining the melting point of fats and of other substances.

Thomann, J., points out that the apparatus that is to be used for the determination of the melting point of official substances, according to the Ph. Helv. IV method, is essentially Thoms' modification of the Roth apparatus. He also points out that a widely used and efficient trick for preventing the gradual coloration of the sulphuric acid is to add a crystal of sodium nitrate.—Schweiz. Wehnschr. f. Chem. u. Pharm. Zürich, 1907, v. 45, p. 715.

Thiele, J., describes and figures an apparatus for the melting point determinations which, it is claimed, has the advantage of producing a ready circulation of the sulphuric acid, an even heating of the material and greater accuracy.—Apoth. Ztg. Berl., 1907, v. 22, p. 396.

Müller, Gustav. (Chem. Ztg., 1907, p. 511), describes and figures a thermometer specially designed to facilitate the determination of melting points.—*Ibid.*, v. 22, p. 495.

Guttmann, Leo Frank, contributes a second paper on the determination of melting points at low temperatures; among others: Ether = -117.6° ; ethyl alcohol = -117.3° ; acetone = -94.6° . He comments on the value of the melting point as a criterion of purity.—J. Am. Chem. Soc., 1907, v. 29, pp. 345-349.

Wöhlk, Alfred, describes and figures the apparatus necessary for determining the melting point of chemical substances.—Arch. f. Pharm. og. Chem. Copenhagen, 1907, v. 14, p. 304.

BOILING POINT DETERMINATIONS.

The Ph. Helv. IV describes a method for determining the boiling point of various official substances.

Beckmann, Ernst, discusses the determination of the boiling point and points out the difficulty of avoiding overheating. He concludes that direct heating either with gas or electricity gives the more reliable results; care must, however, be exercised to avoid overheating.—Chem. Ztg., Cöthen, 1907, v. 31, p. 920.

THERMOMETRY.

The Ph. Helv. IV directs that a medium temperature, 15° C., is to be understood unless otherwise directed. Ordinary temperature has a range of from 15° to 20° C. Warm water has a temperature of from 60° to 70° and hot water a range from 85° to 95° .

The Ph. Dan. VII directs that the centigrade scale thermometer be used. Ordinary temperature is to be understood as being 15° C. For water, cold water is water at ordinary temperature; lukewarm water is water having a temperature of from 35° to 45° C.; and warm water is water having a temperature above 60° C.

POLARIZATION AND REFRACTION.

Thurston, Azor, discusses the practical application of the polariscope in the determination of the identity and purity of certain pharmacopœial substances, and presents a list of communications on the subject.—Merck's Report, N. Y., 1907, v. 16, pp. 123–125.

v. Kazay, Endre, discusses the value and the method of determining the refractive index of various liquids.—Pharm. Post, Wien, 1907, v. 40, pp. 507–509.

Cesàro, G. (Bull. Acad. Roy. Belg., Cl. Sci., 1907, 135–58), describes a new method for the determination of the indices of refraction using Wollaston's Goniometer, without the addition of any special apparatus for measuring the indices.—Chem. Abstr. Am. Chem. Soc., 1908, v. 2, p. 47.

Rammstedt, O. (Pharm. Ztg., 52, 991–4), discusses the application of the immersion refractometer with reference to its utility for the apothecary. While extremely convenient in the control of routine operations and standardizing of products, the instrument is comparatively expensive and less generally useful than the balance.—*Ibid.*, v. 2, p. 690.

5. APPARATUS.

Hughes and Barrow describe and figure a very simple device for filling bottles from carboys, consisting of a special rubber stopper and a suction pump.—J. Am. Chem. Soc., 1907, v. 29, pp. 241–242.

Campbell, Edward De Mille, describes and figures a convenient air bath and hot plate used at the University of Michigan for the past ten years.—*Ibid.*, v. 29, pp. 283–286.

Francis, C. K., gives a figure and description of a simple and cheap one-piece test-tube stand.—*Ibid.*, v. 29, pp. 787–788.

Lang and Allen figure and describe a modification of the apparatus of Tarugi and Bianchi for the rapid estimation of sulphates and salts of barium.—J. Chem. Soc. Lond., 1907, v. 91, pp. 1370–1373.

An unsigned article describes and figures a new fermentation saccharometer.—Am. Druggist, N. Y., 1907, v. 50, p. 198.

Basler, A. (Münch. Md. Wehr., 1907, No. 50), recommends and describes with illustrations a fermentation saccharometer which is easily cleaned, conveniently used, and accurate in results.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 367.

Goldschmidt, R. (D. Med. Wschr., 1907, No. 25), has devised a combined burette and reservoir which he illustrates and which is supplied by a Berlin manufacturer. In this apparatus the reservoir for the titrating fluid is united with the burette by a three-way cock. A large bore serves for the communication between the reservoir and burette, and a small bore establishes the communication with the outer air.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 33.

The Ph. Hely. IV directs that tests are to be conducted in tubes of about 15 mm. diameter, and where not otherwise specified a quantity of liquid about 5 cc. is to be used, but wherever specific directions are given the quantities indicated are to be used.

6. FILTERS.

Mansier presents an interesting and suggestive paper on the fixation of chemical substances by filter paper—of special importance in legal chemistry.—*Ann. de chim. analyt. Par.*, 1907, v. 12, pp. 397–400.

Labat, M. A., calls attention to the possibility of error due to filter paper in analytical chemistry.—*Bull. de la Soc. de Pharm. de Bordeaux*, 1907, v. 47, pp. 43–46.

Scoville, Wilbur L., discusses some of the problems in connection with the use of filter papers in pharmacy, and points out that it is advisable to use filter paper adapted to the particular liquid that is to be filtered.—*Drug. Circ., N. Y.*, 1907, v. 51, p. 458.

7. COLOR STANDARDS AND COLORS.

Ives, Frederic E., describes and illustrates a new color meter which he believes is capable of measuring all colors and of expressing them in numerical terms.—*J. Frankl. Inst., Phila.*, 1907, v. 164, pp. 47–56.

An unsigned article (*Chem. Eng.*, 5, 213–14) describes a colorimeter apparatus which is an improved form of Kinnicott's colorimeter, and said to be very efficient and also capable of rapid operation.—*Chem. Abstr. Am. Chem. Soc.*, 1907, v. 1, p. 1807.

Horn and Blake (*Am. Ch. J.*, 36, 516–521. Bryn Mawr Coll.) have investigated the variation of sensitiveness with concentration in the colorimetry of ammoniacal solutions of copper sulphate. The same general relations were found to hold here as in previous cases, except that the maximum of sensitiveness is much more accentuated.—*Chem. Abstr. Am. Chem. Soc.*, 1907, v. 1, p. 156.

Stokes and Cain, discuss the colorimetric determination of iron, with special reference to chemical reagents, describing and figuring a simple colorimeter which they have devised.—*J. Am. Chem. Soc.*, 1907, v. 29, pp. 409–443.

Circular No. 35, Bureau of Chemistry, U. S. Department of Agriculture, deals with the solubility and extraction of the leading coal-

tar dyes and vegetable coloring matters, and the color reactions of these coloring matters. The results of the investigation are given in the form of tables, which provide the analyst with a convenient and useful source of information.—*Pharm. J. Lond.*, 1907, v. 25, p. 623.

LaWall, Charles H., outlines a modification of Martin's butter-color method as applied to the detection of added colors in spices. The test as modified is as follows: Mix 15 cc. alcohol with 2 cc. carbon disulphide and add 2 grams of the suspected spice; shake thoroughly and then add 5 cc. of melted lard or liquid petrolatum and again shake the mixture vigorously for several minutes; allow the mixture to separate, decant and filter the alcoholic layer and apply appropriate tests for dissolved colors.—*Am. J. Pharm. Phila.*, 1907, v. 79, pp. 326–327.

Alvarez, E. Pinerua, discusses some color reactions obtained by means of the new general reagent of the polyphenols and their isomers, the hydrate of sodium dioxide ($\text{Na}_2\text{O}_2 \cdot 8\text{H}_2\text{O}$) prepared from sodium dioxide ($\text{Na}_2\text{O}_2 = 2\text{NaO}$), pure ethyl alcohol ($D=0.797$) and cold water.—*Pharm. J. Lond.*, 1907, v. 24, p. 6.

8. ANALYTICAL METHODS AND RESULTS.

Wiley, H. W., as editor presents official and provisional methods of analysis proposed by the Association of Official Agricultural Chemists for use in connection with the administration of the food and drugs act of June 30, 1906.—*Bull. Bur. Chem., U. S. Dept. Agric.*, 1907, No. 107, p. 230.

Murray, Benjamin L., discusses various methods for testing drugs and chemicals.—*Merck's Report*, N. Y., 1907, v. 16, pp. 247–249.

Remington, Joseph P., reports that 12 tests throughout the U. S. P. were omitted because they were not conclusive, or were more efficiently covered by another, or for some other reason were undesirable.—*Meyer Bros. Drug.*, St. Louis, 1907, v. 28, p. 446.

The report of the N. W. D. A., committee on standards and tests of the U. S. P. and National Formulary, discusses the changes that have been made in the U. S. P. and the reasons for making them.—*Am. Druggist*, N. Y., 1907, v. 51, p. 255.

Kahn, Joseph, points out that it is of the utmost importance that the ingredients used in the compounding of physicians' prescriptions shall be of the highest possible purity. The task of assuring this he thinks is a most difficult one.—*Proc. New York Pharm. Ass.*, 1907, p. 238.

Gilmour, J. P., discusses the need for testing drugs and chemicals and presents a table giving the number of samples examined and the average deficiency of pure substances present. He observes that many retail pharmacists are deterred from engaging in the systematic

testing of drugs and chemicals for two reasons; the first being that such work lies beyond the reach of anyone save a professional analytical chemist, and the second, that even if this disability were overcome, the labor is too troublesome and costly to be compatible with ordinary shop business, but considers that neither of these views is justified, and sets out some suggestions in proof of his assertion.—*Pharm. J. Lond.*, 1907, v. 25, pp. 108–110.

Murray, B. L., points out that our present text-books contain a number of undesirable tests, and that the U. S. P. VIII is no exception to this general statement.—*Merck's Report*, N. Y., 1907, v. 16, p. 63.

A news note gives a report of a pharmaceutical meeting in Philadelphia at which the official standards and tests were severely criticised.—*Am. Druggist*, N. Y., 1907, v. 51, p. 311.

Rupp, E., discusses the use of sodium borate for the standardizing of titrimetric solutions.—*Chem. Ztg. Cöthen.*, 1907, v. 31, p. 97.

Phelps and Hubbard recommend the use of succinic acid as a standard in alkalimetry and acidimetry.—*Am. J. Sc.*, 1907, v. 23, pp. 211–213.

Perman, Edgar Philip, discusses the chemical reaction between salts in the solid state; finding that they usually undergo double decomposition when mixed (and not specially dried).—*Chem. News, Lond.*, 1907, v. 96, pp. 3–6.

Howards & Sons point out that the wording in connection with the chemical tests in the *Ph. Japon. III* is very vague and some expressions as "no change" when speaking of tests for metals are very indefinite and unsatisfactory. They believe that the principle adopted in the U. S. P. of stating approximate quantities to be used for qualitative tests and clearly defining the reactions which take place is an enormous improvement of this wording.—*Chem. & Drug.*, Lond., 1907, v. 71, p. 693.

9. CHEMICAL CONSTANTS.

Frerichs, G., suggests that the *Ph. Germ.* include requirements for acid number, ester number, saponification number, and iodine number, and prescribe general methods for determining these factors.—*Apoth. Ztg., Berl.*, 1907, p. 13.

Baur, Emil (*Chem.-Ztg.*, 30, 997), publishes an article containing a discussion of such points as may serve for the permanent establishment of international constants of chemistry.—*Chem. Abstr. Am. Chem. Soc.*, 1907, v. 1, p. 954.

Oldberg, Oscar, presents some notes on the classification of the principal inorganic chemical compounds which he believes should be based on structure and properties, as: 1—binary compounds; 2—acids; 3—bases; and 4—salts.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, pp. 419–423.

An editorial points out that preliminary to the work of revision of the chemical constants a complete digest was made from a dozen of the most important pharmacopœias of the world. The differences which appeared were striking indeed, and demonstrated how practically impossible it is to get anything like absolute uniformity in these standards. Absolute uniformity is a myth and exists only in the minds of the uninformed. In science everything is relative, and it is only through adjustments of relative standards that practical uniformity is secured.—Bull. Am. Pharm. Ass., Chicago, 1907, v. 2, p. 197.

10. TESTS.

HALOGENS.

Rosanhoff and Hill describe a necessary modification of Volhard's method for the determination of chlorides.—J. Am. Chem. Soc., 1907, v. 29, pp. 269-275.

Reichard, C., outlines several tests for distinguishing the haloids in alkaline combination, based upon the behavior of the respective haloid compounds with mercuric iodide.—Pharm. Ztg., Berl., 1907, v. 52, p. 221.

Schuyten, M. C., discusses the possible reactions of the halogen elements with mercury and the halogen salts of mercury, and points out that so far as mercury at least is concerned the usual arrangement of the halogen elements, Cl., Br., I. does not apply.—Chem. Ztg. Cöthen., 1907, v. 31, p. 1135.

Zincke and Hedenström (Chem. Inst. Univ. Marburg. Ann., 350, 269-287) give a method for determining the action of bromine and chlorine on phenols, substitution products, pseudobromides, and pseudochlorides.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 1123.

Stepanow, A. (Ber., 39, 4056-4057, Med. Chem. Lab., Univ. of Moscow), outlines a method for the determination of halogens in organic compounds.—*Ibid.*, v. 1, p. 397.

Andrews. Launcelot W., contributes a note on the direct quantitative separation of chlorides and bromides.—J. Am. Chem. Soc., 1907, v. 29, pp. 275-283.

METALS.

Remington. Joseph P., points out that it was found after conference with the chemical manufacturers that the "heavy-metal test," particularly in respect to the presence of traces of iron, was too stringent, and it was corrected: this involved 15 changes.—Meyer Bros., Drug., St. Louis, 1907, v. 28, p. 446.

Cockling, T. T. (Chem. and Drug., 69, 507), gives three methods which have been used for determining lead in zinc oxide.—Year Book of Pharmacy, Lond., 1907, p. 90.

Bertrand and Javillier describe an extremely sensitive method for the precipitation of zinc.—*Ann. de chim. analyt. Par.*, 1907, v. 12, pp. 179–181.

Repiton, Fernand, discusses the titrimetric estimation of zinc.—*Ibid.*, v. 12, pp. 183–186.

Stähler, A. (*Chem. Ztg.*, 31, 615–616), describes a process for the use of sodium phosphate in the separation and determination of bismuth and mercury.—*Chem. Abstr. Am. Chem. Soc.*, 1908, v. 2, p. 242.

Randall, D. L., discusses the titration of mercurous salts with potassium permanganate, and shows that mercurous sulphate and mercurous nitrate can be readily estimated by potassium permanganate with a very fair degree of accuracy, and that ferrous salts can be successfully titrated in the presence of at least 3 per cent of nitric acid.—*Am. J. Sc.*, 1907, v. 23, pp. 137–140.

SULPHUR AND SULPHATES.

Ebaugh and Sprague describe two methods for the use of sodium carbonate and zinc oxide in sulphur and arsenic determination.—*J. Am. Chem. Soc.*, 1907, v. 29, pp. 1475–1476.

Pickering, Spencer Umphreville, reports on the interaction of metallic sulphates and caustic alkalis, including those of copper, iron, zinc, magnesium, and aluminum.—*J. Chem. Soc. Lond.*, 1907, v. 91, pp. 1981–1988.

Lang and Allen describe and figure an apparatus for the rapid estimation of sulphates and salts of barium which consists of an Erlenmeyer flask provided with a two-hole stopper, one hole carrying a narrow thistle tube which extends to the bottom of the flask and is fitted 3 inches below the funnel with a stopcock, and at the lower end with a plug of glass so that the middle arm is parallel to the thistle tube. This arm is closed by a piece of rubber tubing and pinchcock while the other arm is fitted with a rubber bulb. He describes the method of procedure.—*Ibid.*, v. 92, pp. 1370–1373.

Pellet, H., discussing the calcination of precipitates of barium sulphate and the dessication of precipitates before calcination, says he has been unable to confirm absolutely the results of de Koninck.—*Ann. de chim. analyt. Par.*, 1907, v. 12, pp. 186–188.

NITRATES.

Collins, S. W. (*Analyst*, 32, 1907, No. 379, pp. 349–357) reports on the results of tests of Bush's nitron method (*E. S. R.*, 16, p. 945) on a number of different nitrates, and describes methods of recovering and using the base from the precipitates.—*Exp. Sta., Rec.*, 1907–8, v. 19, p. 705.

Visser, H. L. (Chem. Weekbld., 3, 1906, pp. 743-746) recommends that instead of weighing the nitron nitrate in determining nitric acid the determination be made by comparing the depth of the layer of precipitate with that of a corresponding precipitate from a solution of known content of nitric acid in glass tubes of equal diameter.—*Ibid.*, v. 19, p. 109.

Vriens, J. G. C. (Ztschr. Analyt. Chem., 46, 1907, Nos. 6-7, pp. 414, 420) describes a method based upon the oxidation of ferrous ammonium sulphate when boiled with sulphuric acid and nitrates.—*Ibid.*, v. 19, p. 506.

Van Deventer, C. M. (Chem. Weekbld., 4, 1907, pp. 594-595), defends his method against the criticism of Vriens, maintaining that boiling with a strong acid and an excess of ferrous salt can not lead to satisfactory results unless the air is rigidly excluded.—*Ibid.*, v. 19, p. 705.

See also Chemical Abstracts.

CARBON DIOXIDE.

Malherbe, P., describes and figures apparatus for the estimation of carbonic acid in carbonates.—Ann. de chim. analyt., Par., 1907, v. 12, pp. 261-263.

Breteau and Leroux present a method for the estimation of carbon and hydrogen in organic substances which is commended for rapidity of execution, simplicity of apparatus, and precision of results obtained; it offers, moreover, the advantage of having in sight all the time the progress of the destructive distillation of the substance, likewise of noting the complete oxydation of all the residual carbon.—*Ibid.*, v. 12, pp. 385-392.

AMMONIA.

Ronchése, A. (Jour. Pharm. et Chim., 25, 1907, pp. 611-617), describes a method based upon Delèpine's observations that formaldehyde reacts with ammonium chloride to form hexamethylene-tetramine, and that if the formaldehyde is in excess all of the acid of the ammonium salt is liberated and may be titrated with standard alkali (tenth-normal sodium hydroxide) using phenolphthalein as indicator.—Exp. Sta. Rec., 1907-8, v. 19, p. 407.

Artmann and Skrabal (Ztschr. Analyt. Chem., 46, 1907, pp. 5-17) propose a method in which an excess of sodium hypobromite of known strength is added to the ammonia or ammonium salt and the undecomposed hypobromite is determined in the usual way by adding potassium iodide and dilute sulphuric acid and titrating with standard thiosulphate, using starch as an indicator.—*Ibid.*, v. 19, p. 208.

Ronchése. A. (Compt. Rend. Soc. Biol., Paris, 62, 1907, No. 16, pp. 867-869), explains the application of his method which has already been noted (E. S. R., 19, p. 407), to the examination of ammoniacal salts, urea, and urine, and to the determination of total nitrogen and urinary ammonia.—*Ibid.*, v. 19, p. 1008.

POTASSIUM.

Meyer, G. C. (Chem. Zeit., 1907, 31, 158-159), discusses the use of phosphotungstic acid as a reagent for potassium salts.—Analyst, London, 1907, v. 32, p. 130.

De Vries, H. J. F. (Chem. Weekbl., 4, 1907, pp. 231-242), discusses the causes of error in the estimation of potassium by the platinum chloride method and states his views as to the best means of avoiding them. He gives a summary of work on the subject.—Exp. Sta. Rec., 1907-8, v. 19, p. 407.

ANTIMONY.

Sanger & Gibson discuss the determination of small amounts of antimony by the Berzelius-Marsh method and illustrate the apparatus that is used by them.—J. Soc. Chem. Ind., Lond., 1907, v. 26, pp. 585-589.

ARSENIC.

Caldwell, B. P., calls attention to the possibility of producing a bismuth stain with a Marsh apparatus unless precautions are taken to avoid the possibility of carrying over particles of bismuth.—Am. J. Pharm., Phila., 1907, v. 79, pp. 201-203.

Chapman, Alfred C., discusses the estimation of minute traces of arsenic and recommends the addition of a small percentage of cadmium salt to the evolution flask with the zinc.—Analyst, London, 1907, v. 32, pp. 247-248.

Goldschmidt, Guido, discusses the detection of arsenic in glycerin according to the methods proposed in the Ph. Austr. VIII and Ph. Germ. IV. He reviews some of the recent literature relating to and opinions on the detection of arsenic in glycerin and points out that a permissible limit of 20 mg. As_2O_3 in a liter of glycerin, or approximately 12 parts of arsenic in a million might be considered rather high.—Ztschr. d. allg. österr. Apoth.-Ver., Wien, 1907, v. 45, pp. 375-377.

Lochmann outlines a method for the determination of arsenic by means of a solution of mercuric chloride. He presents a table showing the results of experimental work.—*Ibid.*, v. 45, pp. 544-545.

Schoorl, N., discusses the official Ph. Ndl. IV test for arsenic, the substances in which arsenic is to be looked for, and the results that have been obtained. He concludes that the present official reaction

gives irregular results and is not as reliable as the formerly official Gutzeit test.—Pharm. Weekbl., 1907, v. 44, pp. 57–67.

Lockemann, G., discusses the detection of minute quantities of arsenic and outlines a method for the production of arsenic-free chemicals.—Pharm. Ztg., Berl., 1907, v. 52, p. 817.

Sanger & Black discuss the quantitative determination of arsenic by the Gutzeit method, describe their method at some length, illustrate the apparatus used by them and give the results obtained.—J. Soc. Chem. Ind. Lond., 1907, v. 26, pp. 1115–1123.

Chapman and Law outline a method for the electrolytical determination of minute quantities of arsenic, and also discuss some of the other methods for determining small quantities of arsenic.—Ztschr. f. ang. Chem. Berl., 1907, v. 20, pp. 67–78.

Strzyzowski (Pharm. Post, 1906, 42) outlines a method for the detection of arsenic in organic matter and dietetic articles, which depends on the fixation of arsenic as magnesium arsenate, and the burning off of the organic matter, and testing the solution of the resulting ash by Marsh's method in the usual manner.—Pharm. J. Lond., 1907, v. 24, p. 293.

SUGAR DETERMINATION.

Ito, S. (Journ. Pharm. Soc., of Japan, 1907, No. 310) recommends that the cuprous oxide produced in sugar determinations by Allihn's modification of Fehling's method be weighed as such, and the corresponding weight of copper calculated from the figures obtained. He bases his recommendations on the observation that the cuprous oxide is not appreciably reduced in weight even when exposed to 90°–100° C. for four hours on drying it.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 366.

Benedict, S. R. (Jour. Biol. Chem., 3, 1907, No. 2, pp. 101–117), recommends a copper-carbonate solution as a method of estimating sugar and gives directions for its preparation. For delicate work in sugar detection, either in pure solutions or in urine, the reagent should be freshly mixed and diluted. He also outlines a method for the volumetric estimation of sugar.—Exp. Sta., Rec., 1907–8, v. 19, p. 8.

An unsigned article (Annales de Chim. Analyt., 12, 255) points out that saccharimetric determinations of syrups which show a notable predominance of glucose over lævulose point to the presence of added glucose.—Year Book of Pharmacy, Lond., 1907, p. 155.

Bourquelot, Em., proposes the determination of cane sugar, in plants, by means of invertin. He discusses the history of invertin, its production, its application, and the results that he has obtained. He concludes that cane sugar is an essential constituent in chlorophyll-containing plants. Arch. d. Pharm., 1907, v. 245, pp. 164–171.

Carletti, O. (Boll. chim. farm., 1907, 5), outlines a test for saccharose or glucose in mannite: Place in a test-tube 2-3 cc. of H_2SO_4 and 5 drops of 1 per cent alcoholic solution of menthol, thymol, or *a*-naphthol. Menthol produces no color, thymol a clear yellow and *a*-naphthol a greenish yellow. To this solution carefully add without mixing a solution of 0.1 gm. of the mannite in 5 cc. of water. If the mannite contains saccharose, glucose, or other carbohydrates, giving the furfural reaction, a rose-colored ring is formed with thymol or menthol, or blue-violet with naphthol.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 2929.

Rudisch and Celler describe a method for the quantitative determination of glucose in the urine by a modification of Fehling's solution.—J. Am. M. Ass., 1907, v. 48, p. 324.

Pavy, F. W. (Guy's Hosp. London. Lancet, 173, 263 and 361-65, 1907), investigated the influence of various constituents of the urine, creatinine, water, mucin, etc., on the character of the cuprous oxide precipitate obtained by heating urine containing glucose with Fehling's solution. Creatinine inhibits the coalescence of the particles. The author believes that the usefulness of Fehling's solution lies in its moderate delicacy. Small amounts of reducing agents which have no clinical significance are not shown by the test.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 2722.

5. BIOLOGIC PRODUCTS.

Hallion and Carrion present a note on the experimental assay of the opotherapeutic extract of the hypophysis which calls out an interesting discussion of the keeping qualities of therapeutic sera.—J. de pharm. et de chim. Par., 1907, v. 25, pp. 411-413.

Koch, F. C., discusses organotherapeutic products and points out that of the many products of this kind used but 5, pepsin, pancreatin, suprarenals, thyroids, and bile, are included in the U. S. P.—Proc. Am. Pharm. Ass., 1907, v. 55, pp. 368-372.

Joseph, Don R., reports on a further investigation of the influence of organ extracts of cold-blooded animals on the blood pressure and describes the method of preparing extracts and the method of recording results. None of the extracts examined were found to be potent in small doses. A noticeable effect, however, on the blood pressure is produced by the extract of shark testis.—J. Expr. M., N. Y., 1907, v. 9, pp. 606-624.

The same author also presents a comparison of the properties of organ extracts of cold- and warm-blooded animals in the form of a table of parallel columns.—*Ibid.*, v. 9, p. 625.

An unsigned article reviews the probable therapeutic value of organotherapeutic preparations.—Therapist (The), London, 1907, v. 17, pp. 10-12, 23-24, 34-36.

Arnold, L., presents a discussion of and describes some of the animal drugs used by the Arabs.—*Bull. de Pharm. du Sud-Est.*, 1907, v. 12, pp. 369–374.

Drescher, August, discusses the chemistry and possible uses of lecithin and outlines the following classification for albuminoid bodies: (1) Albuminous bodies, (2) nucleins, (3) chloresterines, (4) enzymes, and (5) lecithins, etc.—*Merck's Report*, N. Y., v. 16, p. 253.

Hommell, P. E., presents a description of lecithin and concludes that there is no future for this product from a therapeutic standpoint.—*Proc. New Jersey Pharm. Ass.*, 1907, pp. 58–59.

The Council on Pharmacy and Chemistry describes lecithin, and states that the ordinary diet contains from 75 to 225 grains (5 to 15 gms.) of lecithin, and that some authorities maintain that an increased diet of lecithin-containing food (eggs, etc.) would suffice to obtain the effects of this substance.—*J. Am. M. Ass.*, 1907, v. 48, p. 1185.

ENZYMES.

Euler, H., discusses the general chemistry of enzymes, and presents a bibliography of 304 references and a table showing the reactions and the nature of the several animal and vegetable ferments.—*Ergeb. d. Physiol.*, 1907, v. 6, pp. 187–243.

A report of the meeting of the Baltimore branch of the A. Ph. A. records a discussion on ferments and enzymes.—*Am. Druggist*, N. Y., 1907, v. 50, p. 208.

Hedin, S. G., reports additional experiments to determine the enzyme-absorbing properties of charcoal and similar substances. The enzymes experimented with are those found in the spleen of the ox.—*Biochem. J. Liverpool*, 1907, v. 2, pp. 112–116.

An unsigned article points out that the idea of employing yeasts and ferments in therapeutics is by no means new, and that from time immemorial beer yeast has enjoyed a reputation as a depurative or blood purifier.—*Chem. & Drug.*, Lond., 1907, v. 71, p. 909.

Vandavelde, A. J. J. (*Biochem. ZS.*, Bd. I., pp. 408–412, 1906), discusses the diffusion of enzymes through cellulose membranes and reports some experiments with invertin, maltase, rennin, zymase, and blood catalase.—*Physikal. Chem.*, *Centralbl.*, 1907, v. 4, p. 38.

Leffmann, Henry, presents some observations on the action of antiseptics on some starch-converting enzymes and points out that, while the experiments recorded are too few to form a basis for generalization, they are nevertheless suggestive.—*Proc. Pennsylvania Pharm. Ass.*, 1907, pp. 238–240.

Vandavelde, A. J. J. (*Gent.-Belgien, Biochem. Z.*, 3, 315, 319), states that an iodoformketone solution will keep milk sterile for days and at the same time will not retard the action of enzymes.—*Chem. Abstr. Am. Chem. Soc.*, 1907, v. 1, p. 1145.

Bayliss, W. M., records some observations on the cause of the rise of electrical conductivity under the action of trypsin.—*J. Physiol., Lond.*, 1907–1908, v. 36, pp. 221–252.

OPSONINS.

Houghton, E. M., presents a review of the opsonins and bacterial vaccines; also includes a bibliography on the subject.—*Therap. Gaz., Detroit*, 1907, v. 31, pp. 24–28. (See also *Am. J. Pharm., Phila.*, 1907, v. 79, pp. 141–147.)

Miller, E. C. L., describes and figures the various steps necessary for determining the opsonic index of the blood.—*Therap. Gaz., Detroit*, 1907, v. 31, pp. 173–180.

Hitchens, A. Parker, discusses the theory of the opsonic index and of bacterial vaccines.—*Am. J. Pharm., Phila.*, 1907, v. 79, pp. 556–563.

Burvill-Holmes, E., discusses the opsonic index theory in relation to tuberculosis.—*Ibid.*, v. 79, pp. 563–569.

Crace-Calvert, George A., discusses opsonins, the opsonic index and their practical value in the treatment of disease.—*Lancet, Lond.*, 1907, v. 172, pp. 279–282.

Wright, Almroth E., discusses the principles of vaccine therapy.—*J. Am. M. Ass.*, 1907, v. 49, pp. 479–487, 567–573.

An editorial discusses the opsonic index in certain infectious diseases and reviews some of the more recent work.—*Ibid.*, v. 49, p. 1442.

Additional references will be found in the *Index Medicus* and the *J. Am. M. Ass.*

6. VEGETABLE DRUGS.

An editorial in discussing the pharmacopœial changes in crude drugs points out that the general complaint among the trade appears to be not in that the reductions have been too radical, but that they have been too light in most instances and that there have been too few of them.—*Oil, Paint, and Drug Reporter, N. Y.*, 1907, v. 71, Feb. 25, p. 8.

An editorial points out that due to the enforcement of the pure food and drugs act dealers are beginning to experience difficulty in disposing of many crude drugs owing to the fear on the part of the manufacturers as to whether or not such drugs may answer the requirements of the Pharmacopœia.—*Am. Druggist, N. Y.*, 1907, v. 50, p. 33.

Gausby, R. A., asserts that there is no difficulty in procuring ample supplies of good quality crude drugs. He believes that deliberate adulteration or substitution is rare and that a poor quality drug is due to carelessness or ignorance rather than to intentional fraud.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 73.

An editorial points out that one fact in connection with the history of the changes in pharmacopœial strength that is worthy of notice is that there is ever since the reduction, a marked improvement in the strength of the drugs arriving for American consumption. This can be easily traced to former rejections, which made foreign shippers careful to send nothing but goods of high strength to this country.—*Oil, Paint, and Drug Reporter*, New York, 1907, v. 71, April 22, p. 8.

Francis, John M., expresses the belief that it will be many years before the present really deplorable conditions in connection with domestic drugs can be changed. Our native drugs are gathered by the most poorly paid and ignorant class, who have no regard whatever for legislation and who know nothing of drug standards. Their small collections of drugs are purchased by the country dealers, and these in turn will sell them to the larger drug factors or jobbers, and thus the various small lots finally become merged in the larger quantities that reach the consumer through the larger dealers.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 62.

Alcorn, Geo. S., discusses the desirability of encouraging the growing of medicinal plants, and expresses the belief that drug plants, if intelligently fertilized and cultivated, can be made to yield more than the required amount of active principle, and in many cases two or three times that amount.—*Proc. Tennessee Pharm. Ass.*, 1907, pp. 45-46.

Mitchell, Edward, discusses pure and prime drugs and to what extent jobbers can safeguard the pharmacist.—*Meyer Bros., Drug.*, St. Louis, 1907, v. 28, pp. 306-307.

Davis, S. C., discusses drug adulterants, and points out the desirability of systematic training in the use of the microscope to guard against adulteration and sophistication. He enumerates a number of the more common drug adulterants.—*Proc. Tennessee Pharm. Ass.*, 1907, p. 40.

Vanderkleed, Charles E., points out the value of a practical knowledge of the most essential requirements as to the quality and purity of the drugs handled by the retail druggist, and asserts that while it is true that he may not have the time actually to test all of his supplies for purity, the fact that he is well posted as to how to do it can be made of great value to him.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 57.

Gane, E. H., points out that retail pharmacists may get into trouble by purchasing assayed drugs from inexperienced dealers, and reports that drugs purchased from a prominent house assayed far below the alkaloidal content that was claimed for them.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 316.

Tschirch, A., discusses the origin and the application of the word "pharmacognosy."—*Schweiz. Wehnschr. f. Chem. u. Pharm. Zürich*, 1907, v. 45, pp. 185-190.

Hanausek, Edward, reviews the progress made in pharmacognosy during the year 1906, and presents a number of references, including practically all of the more important original contributions during the year.—*Chem. Ztg. Cöthen.*, 1907, v. 31, pp. 299-301.

Mitlacher, Wilhelm, discusses the production of microphotographs, and presents a number of illustrations showing the possible application to the study of crude drugs.—*Ztschr. d. allg. österr. Apoth.-Ver.*, Wien, 1907, v. 45, pp. 311-313.

Tschirch, A., discusses the physiological chemistry of plant secretions and the possible explanation of the physiology of the cell.—*Arch. d. Pharm.*, 1907, v. 245, pp. 380-388.

Stscherbatscheff, D., presents a contribution to our knowledge of the development of several official plant drugs.—*Ibid.*, v. 245, pp. 48-70.

Holm, Theo., presents a number of descriptions, liberally illustrated, of the medicinal plants of North America.—*Merck's Report*, N. Y., 1907, v. 16, p. 65ff.

Henkel, Alice, presents an exhaustive discussion, with illustrations, of American root drugs, including all the official roots found in this country, besides most nonofficial root drugs that are frequently quoted in drug catalogues.—*Bull. Bur. Plant Ind., U. S. Dept. Agric.*, 1907, No. 107, pp. 80, Pl. 7, Fig. 25.

Schneider, Albert, presents a lengthy dissertation on the native and introduced poisonous and medicinal plants of California.—*Pacific Pharm.*, San Francisco, 1907-8, v. 1, pp. 17-24, 26-31, 74-80, 136-140.

Johnson, E. E., reports a study of the plants used by Indians and the early Spanish settlers of California.—*Ibid.*, v. 1, pp. 411-415.

Week, F. A., discusses some of the medicinal plants of the Pacific coast and enumerates the more important of these.—*Ibid.*, v. 1, pp. 359-361.

Borneman, John A., enumerates a number of foreign medicinal drugs which have been successfully cultivated by him on a commercial scale.—*Am. J. Pharm., Phila.*, 1907, v. 79, p. 546.

Long, J., reports some additional experience in the growing of medicinal plants in Texas.—*Pharm. Era*, N. Y., 1907, v. 37, p. 177.

Farwell, O. A., discusses adulterations and substitutions of crude drugs and reports a number of observations in connection with drugs that are frequently adulterated.—*Merck's Report*, N. Y., 1907, v. 16, p. 220.

Maiden, J. H., presents some notes on plants which in drying stain paper, discusses the possible reasons for this, and enumerates a number of plants that have been found to stain the herbaris papers to which they are attached.—*Am. J. Pharm., Phila.*, 1907, v. 79, pp. 62-67.

An editorial discusses the prospects of the crops of crude drugs now under cultivation in England.—*Pharm. J. Lond.*, 1907, v. 25, p. 2.

An editorial comments on the efforts that are now being made to awaken an interest in the growth of medicinal plants in the United States.—*Am. Druggist*, N. Y., 1907, v. 51, p. 300.

An unsigned article gives a description with illustrations of how plants are cultivated in southern France.—*Ibid.*, v. 50, pp. 322–324.

Eccles, R. G., gives the results of observations of drug plants during a tour of the world.—*Pacific Pharm.*, San Francisco, 1907–8, v. 1, pp. 355–359.

Brandel, I. W., reviews the literature relating to plant pigments and discusses the several compounds known to influence the formation of color in plants.—*Pharm. Rev.*, Milwaukee, 1907, v. 25, pp. 208–211, 238–241, 257–260.

Stephens quotes with approval an article in the *Oil, Paint and Drug Review*, under the caption “Returning to Herbs,” and thinks the Eclectic School deserves the credit therefor.—*Eclectic M. J.*, Cincin., 1907, v. 67, p. 630.

Ebert, Felix, presents a contribution to our knowledge of the Chinese materia medica and describes and figures many of the fruits and seeds used in China for medicinal purposes.—*Ztschr. d. allg. österr. Apoth.-Ver.*, Wien, 1907, v. 45, p. 423, ff.

Greenish, Henry G., points out that the descriptions of crude vegetable drugs in the *Ph. Dan. VII* are remarkable for the very extensive introduction of descriptions of microscopic structures, which have been systematically introduced for nearly every organized vegetable drug.—*Pharm. J. Lond.*, 1907, v. 25, p. 463.

In the *Ph. Helv. IV* the botanical name of vegetable drugs is generally followed by the name of the author, written out in full, with the exception of a few of the more well-known botanists whose name is abbreviated. “Engler and Prantl, *Die natürlichen Pflanzenfamilien*,” is the authority followed.

Thomann, J., points out that the *Ph. Helv. IV* descriptions of vegetable drugs are most complete and that they include morphologic and anatomic details and will require the use of the compound microscope with ocular micrometer for applying the necessary tests for identity.—*Schweiz. Wehnschr. f. Chem. u. Pharm.*, Zürich, 1907, v. 45, p. 677.

1. POWDERED DRUGS.

Holm, Theo., discusses the application of the microscopic-anatomical and micro-chemical characters observable in the organs of animals and plants to the systematic distinction of these. Points out a number of instances where related plants have been found to contain widely varying structures.—*Am. J. Pharm. Phila.*, 1907, v. 79, p. 56.

Nelson, Burt E., continues the descriptions of powdered crude drugs and the analytical scheme for their microscopical examination.—Merck's Report, N. Y., 1907, v. 16, p. 38ff.

He presents a classification of drug powders based on their sensible properties.—*Ibid.*, v. 16, pp. 163, 191.

Ziegler, W. H., discusses the need for controlling the identity and purity of powdered drugs, and points out that the compound microscope offers the only safe and ready method for doing this.—Proc. South Carolina Pharm. Ass., 1907, pp. 20-21.

Hartwich, C. (Schweiz. Wochenschr. Chem. u. Phar., 1907, p. 544), outlines a method for the sedimentation of plant powders, which he considers will be of assistance in microscopical examination.—Apoth. Ztg., Berl., 1907, v. 22, p. 854.

Kramer, Hans, presents a series of contributions on the microscopic pharmacognostic knowledge of leaves and flowers, with illustrations.—Ber. d. pharm. Gesellsch., Berl., 1907, v. 17, pp. 308-367.

In a discussion on the relative merits of maceration and percolation it is pointed out that one of the main objections raised against percolation was that it requires the use of powdered drugs, thus making the "apotheker" more dependent upon the wholesaler, as the analysis of powdered drugs requires more time than the actual process, or it demands the provision of grinding apparatus in every pharmacy.—Chem. & Drug., Lond., 1907, v. 70, p. 34.

Tunmann reviews some of the literature relating to the oil glands in plants, their origin, form, and probable uses.—Pharm. Ztg., Berl., 1907, v. 52, pp. 353-354. (See also communication by "Victor." *Ibid.*, p. 418.)

Philipp Röder (Jahresbericht, Wien, 1907, p. 11), discusses the applicability of the Ph. Austr. VIII limitations for ash in vegetable drugs and asserts that a number of them require revision. He points out that for powdered vegetable drugs particularly the determination of the ash content will prove to be an additional safeguard.—Pharm. Post, Wien, 1907, v. 40, p. 307.

Thomann, J., points out that the Ph. Helv. IV includes microscopic as well as macroscopic characteristics of drugs and that for powdered drugs that are found in commerce the micro-anatomic characteristics are included.—Schweiz. Wchnschr. f. Chem. u. Pharm. Zürich, 1907, v. 45, p. 678.

The authority for the anatomic descriptions of plant drugs in the Ph. Helv. IV is "Tschirch, Angewandte Pflanzenanatomie."

2. VALUATION OF VEGETABLE DRUGS.

Robinson, William J., discusses the standardization of galenical preparations and concludes, in part, that standardization is unreliable, unscientific, and imperfect. He suggests the use of active prin-

ciples instead of the galenicals.—*Drug. Circ.*, N. Y., 1907, v. 51, pp. 297–298.

Rusby, H. H., discusses the paper by Robinson and points out that while it is true that the active constituent of a drug is sometimes better because of its “freedom from objectionable and irritating inert material” it follows as a corollary that in other cases such active constituent will be less useful because of its freedom from other desirable active constituents.—*Ibid.*, v. 51, pp. 298–300.

Robinson, William J., replies at some length but modifies his suggestion so as to read: give up *most* of the galenicals and use *wherever feasible* the active principle instead.—*Ibid.*, v. 51, pp. 407–409.

Coblentz, Virgil, asserts that only a trained expert in pharmacy would be competent to prove the strength of many crude drugs or of the alkaloids where the alkaloidal content is a matter difficult of determination. He also points out that there are many cases that respond to no known chemical test where the senses of smell, taste, and touch must be largely relied upon. In such cases a knowledge of pharmacognosy will go much further than a mere chemical experience.—*Pharm. Era*, N. Y., 1907, v. 37, p. 95.

Beckmann, Ernst, discusses the application of cryoscopic methods to the examination of spices and other drugs, outlines the more desirable methods of extracting the drug, and records the results obtained.—*Arch. d. Pharm.*, 1907, v. 245, pp. 211–234.

Philipp Röder (*Jahresbericht*, Wien, 1907, p. 11), points out that the moisture content of drugs is best determined by drying 2 gms. of the powdered substance for twelve hours at a temperature of 100° C., and weighing after allowing the substance to cool in an exsiccator. The difference in the two weighings multiplied by 50 gives the per cent content of moisture. Also outlines a method for determining the extract content of drugs.

The *Ph. Helv.* IV outlines a method for determining the aqueous extract of drugs, also a general method for determining the alcohol extract.

André, G., discusses the composition of vegetable juices extracted from the stems and from the leaves, and the migration of soluble principles in the vegetable.—*Compt. rend. Acad. d. sc. Par.*, 1907, v. 144, pp. 276–278, 383–386.

Dott, D. B., discusses the application of the word “resinoid” and reports some observations on the preparations that have been classified under this heading.—*Pharm. J. Lond.*, 1907, v. 25, p. 110.

Evans Sons Lescher and Webb (*Analytical Notes*, 1907, 1908, p. 23), state that a ready macroscopical test for the detection of fairly large proportions of olive stone powder in some drugs is provided by phloroglucinol and hydrochloric acid. Pepper and fair qualities of gentian retain, to a great extent, their natural colors when so treated,

whereas the presence of much woody tissue is shown by the production of a pronounced pink or red color.

3. ASH DETERMINATIONS.

Wöhlk, Alfred, presents a table giving the permissible ash in a number of drugs and chemicals enumerated in the Ph. Dan. VII and in the previous edition of the same book.—Arch. f. Pharm. og. Chem., Copenhagen, 1907, v. 14, p. 322.

Greenish, Henry G., points out that in regard to the determination of ash or extract the Ph. Dan. VII exhibits a notable difference from the Ph. Austr., very few determinations of this kind being required.—Pharm. J. Lond., 1907, v. 25, p. 463.

Thomann, J., points out that the Ph. Helv. IV outlines a method for determining the ash content of vegetable drugs.—Schweiz. Wchnschr. f. Chem. u. Pharm., Zürich, 1907, v. 45, p. 678.

According to the Ph. Helv. IV the determination of unweighable residues is to be made by incinerating a specified quantity of the material, 0.1 or 0.01, the resulting ash to weigh more than 0.0005.

Philipp Röder (Jahresbericht, Wien, 1907, p. 11) determines the ash content of drugs by heating 1 to 2 gms. of the substance in an open crucible until constant weight has been attained.

van Itallie, L., discusses the determination of the ash content of some official Ph. Ndl. IV preparations.—Pharm. Weekbl., 1907, v. 44, pp. 743-746.

Alcock, F. H., points out that the determination of the ash of drugs has reached an important stage, and calls attention to the need for differentiating the nature of the resulting ash and determining the amount and kind of alkali present.—Pharm. J., Lond., 1907, v. 25, p. 122.

Hafner and Krist present some observations on the determination of the ash content of drugs, with particular consideration of the manganese content of the ash. They present a table showing the frequency with which manganese was found. In a total of 307 samples examined manganese was found in 295.—Ztschr. d. allg. österr. Apoth. Ver., Wien, 1907, v. 45, pp. 387-388, 399, 400.

Farnsteiner, K., points out the need for determining the nature and the composition of the ash of drugs and foods and reports experiments on a method for determining the true alkalinity of the ash content.—Ztschr. f. Unters. d. Nahr. u. Genussm., 1907, v. 13, pp. 305-338.

Kramer, Hans, discusses the determination of ash in powdered leaf drugs and points out that the origin and the age of plants may materially affect the ash content.—Ber. d. pharm. Gesellsch., Berl., 1907, v. 17, pp. 360-363.

Philipp Röder (Jahresbericht, Wien, 1907, p. 11) points out that a number of the ash determinations that have been included in the Ph. Austr. VIII are in need of revision, and also points out that the de-

termination of the ash content of whole drugs, particularly roots and herbs, is impracticable and of but little value.

Judd, Albert F., calls attention to the importance of ash determinations of vegetable drugs and records a number of observations with asafetida, aloes, capsicum, and black pepper.—Proc. Pennsylvania Pharm. Ass., 1907, pp. 259-260.

4. GLUCOSIDES.

Rosenthaler, L., discusses the classification of glucosides and reviews the several classifications suggested by Hlasiwetz, v. Lippmann, and others.—Pharm. Zentralh., 1907, v. 48, pp. 949-955.

Guignard, L. (Compt. rend., 145, 1907, p. 1376), communicates some results which he obtained by grafting experiments with plants yielding cyanogenetic glucosides.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 173.

Bourquelot, Em., discusses the determination of glucosides in plants by means of emulsin, the discovery of emulsin, and the behavior of glucosides under its influence; also enumerates a number of plants that have been examined.—Arch. d. Pharm., 1907, v. 245, pp. 172-180.

Vintilesco, J., reports on the glucosides found in several plants belonging to the Oleaceæ.—*Ibid.*, v. 245, pp. 180-199.

Danjon, Em., discusses the application of biochemical methods to the discovery and estimation of cane sugar and glucosides in plants of the natural order Caprifoliaceæ.—*Ibid.*, v. 245, pp. 200-210.

5. ALKALOIDS.

Gösling, F. W., discusses the origin, history, and chemistry of the alkaloids used in medicine.—Pharm. Post, Wien, 1907, v. 40, pp. 471-475, 491-495.

Gordin, H. M., completes his review of the progress in alkaloidal chemistry during the year 1905.—Pharm. Rev., Milwaukee, 1907, v. 25, pp. 22-24, 48-57, 85-87, 108-115, 139-146.

Also reports on the progress in alkaloidal chemistry during the year 1906.—*Ibid.*, v. 25, pp. 169-179, 199-205, 225-235, 261-272, 313-316.

Kwisda, A., discusses the advances that have been made in the chemistry of the alkaloids during the year 1906.—Pharm. Post, 1907, v. 40, pp. 153-154, 181-182.

Pfeiffer, P., reviews the advances that have been made in the chemistry of alkaloids during the past two years.—Chem. Ztschr., 1907, v. 6, pp. 101-106, 121-124.

Schmidt, Ernst, discusses the chemistry of alkaloids, their origin, their use to the plant, and the possibility of their synthesis.—Apoth. Ztg., Berl., 1907, v. 22, pp. 911-916.

Atkins, Donah Josiah, discusses the official alkaloids and salts of alkaloids and enumerates the several pharmacopœial tests.—Proc. North Carolina Pharm. Ass., 1907, pp. 54-66.

An editorial discusses the part played by alkaloids in the economy of plant life and points out that they are now generally considered as being largely waste products.—*Drug Topics*, New York, 1907, v. 22, p. 97.

Schmidt and Meyer discuss the movement of alkaloids in various portions of plants and suggest several problems for further study.—*Arch. d. Pharm.*, 1907, v. 245, pp. 329–336.

Reichard, C. (*Pharm. Centr.*, 48, 44–51), contributes several important suggestions to the knowledge of alkaloid reactions.—*Chem. Abstr. Am. Chem. Soc.*, 1907, v. 1, p. 894.

Fetterolf, Daniel W., discusses the application of the Lloyd reaction for alkaloids, and reviews the literature, a list of the contributions being included.—*Am. J. Pharm.*, Phila., 1907, v. 79, p. 317.

Riedel's *Berichte* (Berlin, 1907, pp. 60–70), discusses the characterization of the more widely used anesthetics and of several well-known alkaloids by noting the crystalline structure and the melting point of picrates precipitated from more or less dilute solutions.

Pozzi-Escot, Emm., describes a double iodide of bismuth and strychnine, and a double iodide of bismuth and cocaine, which are claimed to offer good microchemical tests for strychnine and cocaine, respectively.—*Ann. de chim. analyt. Par.*, 1907, v. 12, pp. 357–358.

von Pflugk discusses the uses of oil solutions of alkaloids as recommended by Panas and Scrini.—*Pharm. Ztg.*, Berlin, 1907, v. 52, p. 806.

6. ASSAY PROCESSES.

Rammstedt, Otto, reviews, chronologically, the methods of alkaloidal assay from the discovery of morphine by Sertürner to the present time.—*Apoth. Ztg.*, Berl., 1907, v. 22, pp. 1067–1069, 1081–1083, 1103–1104, 1117–1119.

Puckner, W. A., reviews the literature relating to the estimation of alkaloids for the year 1906 and the reasons for the unusual interest and activity in connection with alkaloidal assays in this country.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, pp. 383–400. (See also *Pharm. Rev.*, Milwaukee, 1907, v. 25, pp. 303–312, 321–331.)

Rusby, H. H., asserts that in providing assay processes the Pharmacopœia has in many instances gone contrary to its best light, inaccurate processes having been introduced when perfected and accurate ones were available. "Although it is irritating to those who are obliged to share the responsibility, it is not just to charge these failures against the subject, when they belong only to its administration."—*Drug. Circ.*, N. Y., 1907, v. 51, p. 299.

Gane, E. H., summarizes the report on alkaloidal assays of the committee on U. S. P., and points out that the range of difference is altogether too great to permit of positive statements being made on the report of any one chemist.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 315.

Lyons, A. B., asserts that the U. S. P. assay processes are generally sound in principle, and only in a few instances need modification, in some details, to make them practical.—*Ibid.*, v. 55, p. 63.

A symposium on the assay processes of the U. S. P. VIII is continued in the *Am. Druggist*, N. Y., 1907, v. 50, p. 8.

Kebler, Lyman F., points out that in view of the legal status conferred upon the U. S. P. VIII it appeared desirable to study all of the plant drug assays contained therein. He outlines the program that was followed and records some of the work that has been done.—*Proc. Ass., Off. Agric. Chem.*, 1907, 24th Ann. Convention, p. 81. (*Bull. Bur. Chem. U. S. Dept. Agric.*, 1908, No. 116.)

Lyons, A. B., points out a number of weak points in the official alkaloidal assays, and also points out that those who have had the most experience in the use of assay processes will agree that few of them can be expected to yield in the hands of different manipulators results that will agree closely.—*Am. Druggist*, N. Y., 1907, v. 50, p. 68.

Good, J. M., points out that in connection with assay work the personal element is important and that while the details in each process are quite explicit the results will be considered reliable only when obtained by experts in such work.—*Nat. Druggist*, St. Louis, 1907, v. 37, p. 64.

Naylor, W. A. H., in discussing the U. S. P. assays for galenicals, points out that in several instances the percentage of alkaloid is determined by the titration of an unweighed residue. He believes that this method of procedure is not free from certain defects, and in some cases would tend to give too high results.—*Am. Druggist*, N. Y., 1907, v. 50, p. 355. (See also Naylor and Chappel, *Pharm. J. Lond.*, 1907, v. 24, p. 393.)

Bougault, J., thinks that the descriptions of assay processes in *Ph. Belg.* III, while admirably concise, lack that particularity which would tend to utility and uniformity.—*J. de pharm. et de chim. Par.*, 1907, v. 25, pp. 244-250.

van der Haar, A. W., presents a theoretical and practical study of the methods of quantitative assay of alkaloids in drugs and preparations that have been included in the *Ph. Ndl.* IV. Published as a separate, referred to in *Pharm. Weekbl.*, 1907, v. 44, p. 1377.

Wulff, C., reviews the assay methods of the *Ph. Austr.* VIII, enumerates the drugs for which assay methods are included, and compares the methods with those official in the *Ph. Germ.* IV.—*Apoth. Ztg.*, Berl., 1907, v. 22, pp. 1032-1033.

Caesar and Loretz (*Geschäfts Ber.*, 1907, p. 75) outline a number of modifications for the official *Ph. Germ.* IV methods of assay and describe some simple apparatus that will be found useful in this connection.

Webster, M. H., outlines a general method of assay for galenical preparations, which depends on the precipitation of the contained ammonia, gum and albuminous matter with absolute alcohol acidified with tartaric acid, evaporating the resulting filtered solution and treating with acidified water to get rid of the chlorophyll, resins and fat; the acid solution, after being filtered, is made alkaline and washed out with a mixture of chloroform and ether; add an excess of N/50 or N/100 sulphuric acid. Separate and titrate back with N/50 sodium hydroxide, using cochineal as the indicator.—*Am. J. Pharm., Phila.*, 1907, v. 79, pp. 299–307.

Matthes and Rammstedt discuss the use of picrolonic acid (dinitrophenylmethylpyrazolon) as a precipitant for alkaloids, review some of the literature relating to work done with this reagent, and record some of their own work in this direction.—*Ztschr. f. anal. Chem., Wiesb.*, 1907, v. 46, pp. 565–574. (See also *Arch. d. Pharm.*, 1907, v. 245, pp. 112–132.)

Warren and Weiss report some experiments on the use of picrolonic acid as a precipitant for alkaloids; also present a number of illustrations showing the characteristic crystals of picrolonates of the several alkaloids.—*Journ. Biol. Chem., N. Y.*, 1907, v. 3, pp. 327–338.

Naylor, W. A. H., discusses the assay of galenicals, the chief features which ought to characterize an ideal method of assay, and the difficulty of devising a process which shall satisfy the several requirements.—*Pharm. J., Lond.*, 1907, v. 24, pp. 392–393.

Riedel, J. D. (*Pharm. Zeit.*, LII, p. 292), has found that most of the local anesthetics, such as stovaine, novocaine, alypin, scopolamine, anesthesin, etc., as well as several of the frequently employed alkaloids, afford, with picric acid, easily crystallizable picrates possessing not only characteristic crystalline forms, but definite melting points as well.—*Merck's Report, N. Y.*, 1907, v. 16, p. 290.

Philipp Röder (*Jahresbericht, Wien*, 1907, p. 12) points out that in shaking out mixtures with chloroform in chloroform containing liquids the frequently resulting emulsion can readily be broken up by stirring the mixture with a medium thin wire. Chloroform solutions that are intended to be evaporated frequently contain mechanical impurities, and he suggests filtration. This can readily be accomplished by placing a pledget of cotton in the tube of the separating funnels.

Parker, C. E., describes and figures a mechanical agitator for use in drug assay work.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, pp. 497–499.

7. PHYSIOLOGICAL STANDARDIZATION.

An editorial calls attention to the evidence given by Cushny on the pharmacodynamic action of drugs and points out the importance of such experimental inquiry.—*Pharm. J., Lond.*, 1907, v. 24, p. 717.

Wilson, J. Beetham, discusses the standardization of galenicals and asserts that if we consider who are the advocates for standardization its utility appears to be doubtful.—*Ibid.*, v. 25, p. 695.

Lenton, Walter H., in discussing standardization points out that many of those who oppose standardization of galenicals on the supposition that its advocates leave human idiosyncrasies out of their reckoning lose sight of the fact that standardization at least eliminates one element of uncertainty.—*Ibid.*, v. 25, p. 730.

Wilson, J. Beetham, believes that in view of the fact that medicine is not an exact science he can not see any reason for the introduction of standardization of natural drugs.—*Ibid.*, v. 25, p. 770.

Chassevant, Chevalier, Brissemoret, and Pouchet contribute a brief but interesting discussion on the physiologic action of plant extracts, as compared with that of their crystalline principles.—*J. de pharm. et de chim. Par.*, 1907, v. 25, pp. 410-411.

An editorial calls attention to some recent work by Edmunds on the standardization of cardiac remedies, and points out that as matters now stand the physiological assay is made by the physician at the bedside. He gives the drug for a reasonable time, perhaps, and then has to increase the dose until the desired results are attained. No amount of standardization would ever do away with his ascertaining the physiological dose for the individual patient, but it would certainly shorten the process and avoid the loss of much valuable time which may mean life or death to the patient.—*Pharm. J., Lond.*, 1907, v. 25, p. 808.

Korndoerfer, Augustus, asserts that experiments on the lower order of animals are too commonly depended upon in determining the therapeutic action of drugs on man, despite the fact that such experiments must prove unsatisfactory and misleading by reason of the varied functional reactions to the same drug in different classes of animals.—*Hahnemann. Month. Phila.*, 1907, v. 42, pp. 561-566.

7. PHARMACEUTICAL PREPARATIONS.

The committee on the U. S. P. of the American Medical Association considers it a distinct mistake not to print after each drug its official preparations, as failure to do this causes the physician constant annoyance.—*Pharm. J. Lond.*, 1907, v. 25, p. 197.

At the end of each monograph descriptive of drugs or chemicals, the *Ph. Helv.* IV includes a list of the preparations in which the article constitutes one of the active ingredients.

The *Ph. Dan.* VII under the index of Latin names of drugs or chemicals includes a list of preparations of which the particular drug or chemical is an active constituent.

A symposium on the galenical preparations of the U. S. P. VIII, held at the meeting of the Missouri Pharmaceutical Association, 1907, is reported.—*Meyer Bros. Drug.*, St. Louis, 1907, v. 28, pp. 282-286.

Fleischmann, C., discusses the relative desirability of purchasing or making of galenical preparations, and points out that quality is practically the only question to be considered, and from this point of view the pharmacist will usually find it to be to his advantage to make many, if not all, of the official galenical preparations.—*Schweiz. Wehnschr. f. Chem. u. Pharm. Zürich*, 1907, v. 45, pp. 98–99.

Whelpley, H. M., discusses the identification of pharmaceutical preparations and enumerates the physical properties to be considered in this connection.—*Proc. Missouri Pharm. Ass.*, 1907, pp. 100–104.

Wilbert, M. I., points out that many of the formulas contained in the National Formulary are representative of the poly-pharmacy of bygone centuries, and have no legitimate reasons for existence at the present time.—*Am. J. Pharm., Phila.*, 1907, v. 79, p. 207.

England, Joseph W., is reported as asserting that the ready-made formula is usually badly “balanced” therapeutically, as, for example, the elixir of phosphorus and nux vomica, N. F.—*J. Am. M. Ass.*, 1907, v. 49, p. 349.

Scoville, Wilbur L., discusses quality as a prime factor in the making of pharmaceutical preparations and calls attention to the need for providing both artistic as well as therapeutically active medicinal preparations.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, pp. 161–165.

Fisk, Frank E., discusses the use of heat in the pharmaceutical laboratory and its use in the making and dispensing of preparations.—*Ibid.*, v. 55, pp. 191–196.

Hallberg, C. S. N., discusses the cerates, ointments, plasters, and suppositories of the Pharmacopœia.—*J. Am. M. Ass.*, 1907, v. 48, pp. 1737–1739.

Lyons, A. B., points out that it is not an easy matter to declare off-hand what proportion of alcohol we may expect to find in official fluid extracts, and points out some of the factors that are involved in estimating this percentage content.—*Am. Druggist, N. Y.*, 1907, v. 50, p. 67.

An editorial comments on the necessity of publishing some authoritative standards of percentages of alcohol for official fluid extracts and points out that in the absence of an official table of percentage strengths manufacturers are compelled to approximate the amounts and in most instances the figures given are too high.—*Ibid.*, v. 50, p. 33.

Beringer, George M., proposes the term “fluid glycerate” as a distinct title for a type of what is proposed as a new class of liquid pharmaceutical preparations made with glycerin or mixtures of glycerin and water as solvents and of the same drug strength as the official fluid extracts, namely, 1 gm. of the drug to each cubic centimeter of the product, and it is believed that a number of such preparations can be made.—*Proc. New Jersey Pharm. Ass.*, 1907, p. 56.

Graham, George A., Tedesche, Leon G., Lamy, Anthony W., Simpson, Maxwell S., Matthews, Aber, C., Macatee, H. C., Lofton, Lucius, discuss the pharmacopœial preparations to be kept on hand by general practitioners.—N. York M. J., 1907, v. 85, pp. 1179–1182, 1216–1220.

1. GENERAL FORMULAS.

Weichelt, W., believes that all of the several accepted forms of medicaments should be represented in the Pharmacopœia by a general formula or definition. Among the forms enumerated by him are: Aceta, aquæ, bacilli medicamentosi, balsamum, boli, candelæ, cerata, chartæ, conservæ, including electuaria, decocta, elæosacchara, elixiria, emulsiones, essentia, extractæ, extracta fluida, gelatinæ, infusa, liquores, mucilagines, olea, pastæ, pilulæ, sapones medicati, saturationes, spirituosæ, syrupi, unguenta, vina.—Apoth. Ztg., Berl., 1907, v. 22, p. 667.

An unsigned article gives a description of pastilles and a type formula for preparations of this kind; also includes a description of confections, pastes, and jellies with type formulas.—Pharm. J. Lond., 1907, v. 25, p. 213.

FORMS OF MEDICAMENTS.

Weichelt, W., presents a comprehensive review of the forms of medicaments recognized by the Ph. Germ. IV, the German prescriptions prices, and the Imperial decree of October 22, 1901, regulating the sale of medicines. The articles that are discussed include:

Aceta.	Extracta.	Pulpæ.
Aquæ.	Extracta fluida.	Pulveres.
Bacilli.	Gelatinæ.	Rotulæ.
Balsamum.	Globuli.	Salia.
Boli.	Glyceratum, Glycerolat- um.	Sapones.
Candelæ fumales.	Guttaplastæ.	Saponimenta vide Lini- menta.
Capsulæ.	Infusa.	Saturationes.
Cataplasmata.	Lanolimenta et Lanoli- menta extensa.	Sirupi.
Cerata.	Linimenta.	Solutiones vide Liquores.
Cereoli.	Liquores, Mixturæ, Solu- tiones.	Species.
Chartæ.	Mel.	Spirituosa.
Collemplastra vide Em- plastra.	Mixtura vide Liquores.	Styli vide Bacilli.
Collodia.	Mucilagines.	Succi.
Conservæ.	Olea.	Suppositoria vide Bacilli et Globuli.
Decocta et Infusa.	Oxymel vide Mel.	Tablettæ.
Elæosacchara.	Pastæ.	Tincturæ.
Electuaria.	Pastilli vide Tablettæ.	Unguenta.
Elixiria.	Pilulæ.	Vina.
Emplastra vide Cerata.	Potio vide Saturationes.	
Emulsiones.		
Essentia.		

—Apoth. Ztg., Berl., 1907, v. 22, pp. 638–641, 650–652, 666–668.

2. CHANGES IN STRENGTH.

Thrush, M. C., thinks that the change in strength of such important preparations as tincture of aconite from 35 to 10 per cent, tincture of veratrum from 40 to 10 per cent, and tincture of strophanthus from 5 to 10 per cent, etc., has been absolutely ignored by the great majority of medical practitioners.—P. C. P. Alumni Report, Phila., 1907, v. 43, p. 185.

An editorial discusses the increase of alcoholic strength by precipitation as reported by John Uri Lloyd in the November number of the Eclectic Medical Gleaner.—Am. Druggist, N. Y., 1907, v. 51, p. 353.

3. STANDARDIZATION.

Royce, S., discusses the need for testing pharmaceutical preparations and the quality of the drugs from which they are made, and criticises the present-day practice in British pharmacies.—Pharm. J., Lond., 1907, v. 24, pp. 214–215.

Arzberger, H. (Pharm. Post, 39, 737–738), gives descriptions and qualitative tests for ointments and plasters containing boric acid, potassium iodide, lead acetate, carbonate and oxide, glycerol, naphthalene, mercury, cantharides, etc.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 621.

Philipp Röder, Wien, points out that the exact standardization of tinctures may lead to unexpected precipitation as the addition of dilutions of alcohol to an extract containing preparation will necessarily alter the specific gravity of that preparation and therefore its solvent properties.—Pharm. Post., Wien, 1907, v. 40, p. 307.

4. REQUIREMENTS.

The Ph. Helv. IV describes odor, taste, and color in connection with all substances possessing these characteristics.

The Ph. Dan. VII includes concise requirements as to contents, general appearance, and color of official pharmaceutical preparations.

5. GALENICALS.

Mittelbach, Wm., as chairman of the committee on the U. S. P., presents a comprehensive review of the galenicals of the U. S. P. VIII, contributed to by a number of members.—Proc. Missouri Pharm. Ass., 1907, pp. 130–138.

A book review calls attention to the history, pharmacy, and practice of compressing medicaments, as outlined by Joseph R. Wood, in a book entitled "Tablet Manufacture."—Nat. Druggist, St. Louis, 1907, v. 37, p. 60.

Good, J. M., expresses the belief that the diminished use of tablet triturates in general practice seems to justify the conclusion that they are a passing fad.—*Ibid.*, v. 37, p. 64.

An abstract (from *American Druggist*) gives an outline of the history of the capsule industry from the invention of capsules by Mothes to the present time.—*Canad. Druggist*, Toronto, 1907, v. 19, p. 37.

Audenampsen, J., describes and figures an apparatus designed for distillation in vacuo on a small scale.—*Pharm. Weekbl.*, 1907, v. 44, pp. 1378–1380.

Brown, Ernest, enumerates the qualifications that should be possessed by a desirable still and describes and figures an apparatus which he believes embodies the several desirable features.—*Pharm. J. Lond.*, 1907, v. 24, p. 23.

6. DECOMPOSITION.

Dohme, A. R. L., asserts that the more important galenical preparations do not deteriorate perceptibly in course of time. He reports that repeated tests over a period of five years show that fluid extracts, with very few exceptions, do not lose any appreciable amount of alkaloid.—*D.-A. Apoth. Ztg.*, N. Y., 1907, v. 28, p. 133.

An editorial presents a résumé of the discussion on the preservation of galenicals at the recent meeting of the American Pharmaceutical Association.—*Bull. Pharm.*, 1907, v. 21, pp. 30–31.

Robinson, R. A., jr., points out that the Codex directions for the preservation of medicaments might, perhaps, be quoted by local authorities prosecuting drug vendors as a proof of the carelessness of the defendant. They might argue that a chemist and druggist would have the less excuse for carelessness in keeping his drugs from the fact that the "Codex" instructs him how this should be done.—*Pharm. J. Lond.*, 1907, v. 25, p. 509.

Crips, R. A., presents some notes on the deterioration of pharmaceutical preparations by long storage. From his results it would appear that, except for prolonged periods, a corked bottle is not inferior to a stoppered one, and therefore "inspectors' samples" can scarcely be questioned on this ground alone.—*Ibid.*, v. 24, p. 519.

Bruder, Otto E., discusses the preservation of drugs and calls attention to a practical application of the pharmacist's theoretical knowledge to prevent deterioration of drugs and medicinal preparations, and gives some additional suggestions on practical methods to be followed in the preservation of drugs.—*Pharm. Era*, 1907, v. 37, p. 275.

The *Ph. Dan.* VII includes a list of articles that are to be carefully preserved free from light or preserved in a poison cabinet. It also includes a list of drugs that are not to be kept longer than one year, and enumerates the drugs that are to be kept on hand at least one year before using.

7. INCOMPATIBILITY.

Robinson, William J., discusses a number of incompatibilities and points out the more desirable method of procedure in connection therewith.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, pp. 185, 191.

8. PERCOLATION.

Brandel and Kremers continue their review of percolation and present a comprehensive bibliography giving the name of the author, the date, and a short abstract of the contents of the papers bearing on this subject.—*Pharm. Rev.*, Milwaukee, 1907, v. 25, pp. 92-96, 116-120, 242-245, 273-275, 317-320.

Caldwell, Paul, describes and illustrates a method for filtering liquids at low temperatures.—*Drug. Circ.*, N. Y., v. 51, p. 293.

9. EXTRACTION.

Eliel, Leo, discusses the possible application of circulatory displacement, and describes an apparatus used by him for this purpose.—*Proc. Indiana Pharm. Ass.*, 1907, pp. 17-18.

Forbing, John W., describes and illustrates an automatic extraction apparatus designed by him, and recalls the principles embodied in the Soxhlet and other extraction apparatus employed in experimental operations, but here applied to manufacturing on a large scale.—*Am. Drugg.*, 1907, v. 51, pp. 357-358.

10. STERILIZATION.

The Ph. Helv. IV gives detailed directions for sterilizing glass and metal articles, medicinal solutions, emulsions, and surgical dressings.

Grübler, M., discusses the requirements for sterilization that are made in the Ph. Austr. VIII, the use of sterilizing apparatus and the practicability of testing the sterility of substances and solutions for freedom from micro organisms.—*Pharm. Post*, Wien, 1907, v. 40, pp. 2-5, 303-304.

Also points out the need for examining prescription vials that are to contain solutions of alkaloids, particularly if these solutions are to be sterilized.—*Ibid.*, v. 40, pp. 579-582.

Stich, Conrad, outlines a method for sterilizing prescriptions, particularly solutions for hypodermic use.—*Pharm. Ztg. Berl.*, 1907, v. 52, p. 706.

Saporetti, Umberto (Bollet. Chimic. Farmaceut. Fasc. 1907, p. 645), discusses the use of the autoclave, for sterilizing, and points out some of the disadvantages of this apparatus. He records experiments made by sterilizing without apparatus, by simply boiling at ordinary atmospheric pressure.—*Ibid.*, v. 22, p. 891.

Wiesenthal, W., discusses the sterilization of substances used in the practice of medicine, and points out that the knowledge of bacteriology possessed by the average apothecary must be enlarged upon if the apothecary of the future is to retain, as he should, the scientific status now occupied by members of that profession.—*Pharm. Zentralh.*, 1907, v. 48, pp. 551-553.

11. FORMS OF ADMINISTRATION.

An unsigned article discusses the dispensing of various forms of medicaments including cachets, capsules, pills, ointments, and mixtures.—*Pharm. J. Lond.*, 1907, v. 25, pp. 100–101, 182–183, 262–263, 289–290, 328–329.

AMPOULES.

Pégurier, G., discusses the use of ampoules for dispensing solutions of apomorphine hydrochloride and of morphine hydrochloride.—*Répert. de pharm. Par.*, 1907, v. 19, pp. 299–301, 442–443.

In this connection, see also Grübler (*Pharm. Post*, 1907, p. 579) on the assay of glass intended for ampoules containing alkaloids.—*Ibid.*, v. 19, p. 504.

CACHETS.

An unsigned article describes cachets, their preparation and method of administration.—*Pharm. J. Lond.*, 1907, v. 25, p. 101.

Smith, Rufus E., discusses the use of wafers and cachets as mediums for exhibiting medicines.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, pp. 165–168.

He describes and figures a new appliance for the filling and sealing cachets.—*Am. Druggist*, N. Y., 1907, v. 51, p. 274.

CAPSULES.

An unsigned article discusses the filling of capsules and the use of capsules as a medium for masking the disagreeable taste of medicines.—*Pharm. J. Lond.*, 1907, v. 25, p. 101.

COMPRESSED TABLETS.

Thomann, J., points out that the *Ph. Helv. IV* includes a general description and formulæ for compressed tablets, and provides that substances insoluble in water must include starch or a similarly acting substance to facilitate disintegration.—*Schweiz. Wehnschr. f. Chem. u. Pharm.*, Zürich, 1907, v. 45, p. 747.

An unsigned article discusses the making of compressed tablets, the tablet machine, and the condition of the material that is suitable for the preparation of tablets.—*Pharm. J.*, Lond., 1907, v. 25, pp. 182–183.

Harnack, Erich, discusses some of the advantages of compressed tablets and points out that they are reliable, practical, easily produced, and not expensive.—*Therap. Monatsh.*, Berl., 1907, v. 21, pp. 499–502.

Some further observations in reply to a criticism published in the *Apotheker Zeitung* (XXII, No. 82), *Ibid.*, v. 21, pp. 635–638.

Thomann reviews the objections to compressed tablets and tabloids that are being evidenced, and points out that on the one hand

these preparations have been found to pass through the body without disintegrating and on the other hand may, because of the concentrated form of the medicament, prove to be irritating and even harmful in the stomach.—Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich, 1907, v. 45, p. 44.

Hallberg, C. S. N., calls attention to the possible abuse of compressed tablets, in that dosage forms of medicines are not readily controlled or examined as to their identity or purity.—Proc. Am. Pharm. Ass., 1907, v. 55, pp. 177–178.

A book review calls attention to a volume of 224 pages on tablet manufacture, its history, pharmacy, and practice, by Joseph R. Wood, published by J. B. Lippincott Company.—Drug. Circ., N. Y., 1907, v. 51, p. 430.

TABLET TRITURATES.

Good, James M., in discussing the additions to the U. S. P. VIII, says that of the preparations which have been popular for several years it will be noticed that tablet triturates are conspicuous by their absence from the Pharmacopœia. He believes that in a limited way these preparations meet a reasonable demand, but the diminished use of them in general practice seems to justify the conclusion that they are a passing fad.—Pharm. Era., N. Y., 1907, v. 37, p. 80.

12. METHODS OF ADMINISTRATION.

Tuffier and Mauté experimenting with trypanroth, silver, and salicylic acid on guinea pigs and rabbits, conclude that medicaments may be introduced by aid of the constant current through the healthy skin, where they are absorbed more or less rapidly; that they seem to form in the cellular protoplasm combinations more or less soluble and different from those which are present when they are introduced subcutaneously, and that their penetration appears to remain superficial.—Compt. rend. Soc. de biol., Par., 1907, v. 62, pp. 64–66.

Iscovesco and Matza give the results of their experiments on this subject.—*Ibid.*, v. 62, pp. 182–184.

Maurel, E., discusses the influence of the principle paths of administration (gastric, hypodermic, intravenous, etc.) on the minimal lethal dose of active medicaments in the frog and the rabbit.—*Ibid.* v. 62, pp. 897–899.

Bancroft, F. W., reports observations on the relative efficiency of the various methods of administering saline purgatives.—J. Biol. Chem., N. Y., 1907–1908, v. 3, pp. 191–211.

II. INTERNATIONAL STANDARDS.

1. INTERNATIONAL CONFERENCE FOR THE UNIFICATION OF PHARMACOPŒIAL FORMULÆ FOR POTENT MEDICAMENTS (BRUSSELS CONFERENCE.)

1. PROJET D'ARRANGEMENT.

An editorial comments on the unification of potent remedies provided for by the international convention held in Brussels in 1902, and gives a list of the governments that have ratified the articles of the convention; also enumerates some of the regulations.—Meyer Bros. Drug., St. Louis, 1907, v. 28, p. 177.

An editorial points out that the international agreement respecting the unification of the pharmacopœial formulas for potent drugs, which was signed at Brussels on November 29, 1906, has now been presented to Parliament and published. (London, Harrison & Sons, St. Martin's Lane, Price 1½d.)—Pharm. J., Lond., 1907, v. 24, p. 387.

Bühlrer, C., reviews the degree of compliance with the protocol of the Brussels conference evidenced by the recently published pharmacopœias. To obtain this degree of compliance the Ph. Belg. modified 80 per cent of the formulas, the Ph. Hisp. 75 per cent, the Ph. Ndl. 39 per cent, while the Ph. Austr., because of the general compliance of its formulas with the requirements of the international protocol, was compelled to change but 6 per cent of the formulas.—Schweiz. Wchnschr. f. Chem. u. Pharm., Zürich, 1907, v. 45, p. 418.

Greenish, Henry G., presents a review of modern pharmacopœias and the international agreement and points out the extent to which the several recently published pharmacopœias differ from the protocol of the Brussels conference. He expresses regret that the U. S. P. does not comply more closely with these requirements.—Pharm. J., Lond., 1907, v. 24, pp. 832–833.

MacAllister, Donald, the president of the general medical council, in an address at the eighty-fifth session of the council, referring to the adoption in the Ph. Brit. of the international agreement respecting the unification of the pharmacopœial formulas for potent drugs, said:

The changes involved may not in all cases be deemed improvements, and if our own insular convenience alone were in question might not at once be approved; but they are probably fewer and less important than other countries

will be constrained under the agreement to make in the common interest of all. The reservation to introduce such modifications in detail as medical and pharmaceutical progress may render necessary, enables the council, as the authority statutorily responsible for the Ph. Brit. to modify the latter while observing the spirit of the agreement, so as to keep pace with the progress of medical and pharmaceutical science. The committee of reference in pharmacy have had the agreement under consideration and have presented to the pharmacopœia committee a valuable report on the changes required to give it effect.—*Drug. & Chem., Lond., 1907, v. 70, p. 844.*

Good, J. M., believes that the wisdom of adopting international standards for potent medicaments needs little argument and calls attention to some of the changes made, in strength of U. S. P. tinctures.—*Nat. Druggist, St. Louis, 1907, v. 37, p. 63.*

A review of progress in pharmacy reports the acceptance of the protocol of the Brussels conference as a diplomatic document and reproduces the protocol entire, with some additional comments.—*Pharm. Ztg., Berl., 1907, v. 52, pp. 860-861.*

An editorial comments on the proposed international medicine standards, points out the standards that are at variance in the Ph. Brit., and comments favorably on the proposal to include the international standards in the coming edition of the Ph. Brit.—*Chem. & Drug., Lond., 1907, v. 70, p. 484.*

"Gnomon" discusses the international agreement respecting the unification of pharmacopœial formulas for potent drugs, and believes that it is not likely to lead to practical results of a far-reaching character in what it is customary to call the "English-speaking" countries.—*Pharm. J., Lond., 1907, v. 25, p. 10.*

An abstract calls attention to the interest that is being taken in the proposed international unification of official formulas for potent medicaments, and expresses the belief that due respect will be given by the British Government to the decisions that may be arrived at on the subject by the various British communities throughout the world.—*Australas. J. Pharm., Melbourne, 1907, v. 22, p. 68.*

An unsigned article commenting on the promulgation of the international protocol points out that the importance of this act must be apparent to all pharmacists. The requirements are reasonable and in keeping with rational advance and progress.—*Pharm. Ztg., Berl., 1907, v. 52, p. 361.*

The Belgian Academy of Medicine, at a session devoted to a discussion of the discrepancies in the official pharmacopœias in use in the different countries, adopted a resolution recommending the Government to take steps toward the formation of an international commission having for its object the establishment of a permanent bureau to work for greater consistency in this respect.—*Med. Rec., N. Y., 1907, v. 71, p. 607.*

Schamelhout, A., comments on the international agreement for the unification of formulas of potent medicaments and the possible development of an international secretariat for the unification of pharmacopœias.—Bull. Soc. roy. de pharm., Brux, 1907, v. 51, pp. 113-121.

An unsigned article discusses the efforts that have been made by the countries to comply with the protocol of the Brussels conference of 1902, and points out that in order to secure so desirable an end as the uniformity of standards throughout the world it seems that it might have been just as well, while revision was in progress, to have made all changes that were necessary for unification and be done with it. It stands to reason that the same term should mean the same thing everywhere; that a medicine called by a certain name in several countries should in all of them at least represent the identical strength of drug or drugs contained in it.—Nat. Druggist, St. Louis, 1907, v. 37, p. 308.

Beringer, George M., points out that the desire to establish international standards for medicines is certainly a very laudable one, and it can not be considered as wise or as encouraging to such a purpose to unnecessarily modify or alter satisfactory formulas of any foreign authority.—Am. J. Pharm., Phila., 1907, v. 79, p. 363.

The protocol of the Brussels conference is reprinted in the Ph. Helv. IV, which designates the titles by the addition of (P. I.).

The Ph. Dan. VII designates all of the preparations included in the Brussels conference protocol by stating immediately under the main title (*Formula internationalis*) practically all of the requirements of the protocol being complied with.

In the appendix to the same pharmacopœia the protocol of the Brussels conference is reprinted.

2. COMPARATIVE TABLE SHOWING THE DEGREE OF COMPLIANCE IN THE SEVERAL PHARMACOPŒIAS PUBLISHED IN 1907 WITH THE PROVISIONS OF THE BRUSSELS CONFERENCE.

	Protocol, International.	B. P. C.	Ph. Helv. IV.	Ph. Dan. VII.
<i>Aconitum napellus</i> (L):				
Title.....	<i>Aconiti tuber seu Tuber Aconiti</i>	<i>Aconiti Radix</i>	<i>Tuber Aconiti</i>	Not official.
Requirement.....	Tuber of the current year.....	Origin, general characteristics, daughter bulb.	<i>Aconiti tuber seu Tuber Aconiti</i> (P. I.). Same as P. I., origin, general and microscopic characteristics.	
<i>Tinctura aconiti</i> :				
Title.....	<i>Aconiti tinctura seu Tinctura Aconiti</i>	<i>Tinctura Aconiti</i>	<i>Tinctura Aconiti</i>	
Strength.....	10 per cent.....	5 gm. in 100 cc.....	<i>Aconiti tinctura seu Tinctura Aconiti</i> (P. I.).	
Menstruum.....	Alcohol (70 per cent).....	Alcohol (70 per cent).....	10 per cent.	
Requirement.....	0.05 per cent of total alkaloids.....		Same as P. I. Appearance, taste, solubility in water, assay and chemical test.	
<i>Atropa belladonna</i> (L):				
Title.....	<i>Belladonnae folium seu Folium Belladonnae</i>	<i>Belladonnae Folia</i>	<i>Folium Belladonnae</i> <i>Belladonnae folium seu Folium Belladonnae</i> (P. I.).	<i>Folia Belladonnae</i> . <i>Belladonnae Folium seu Folium Belladonnae</i> .
Requirement.....	Use only the leaf dried.....	Leaves and young branches about 0.4 per cent alkaloids.	Same as P. I., origin, general and microscopic characteristics, assay (0.35 per cent alkaloids) limit of ash (15 per cent).	Same as P. I. General and microscopic characteristics. May be kept one year.
<i>Tinctura belladonnae</i> :				
Title.....	<i>Belladonnae tinctura seu Tinctura belladonnae</i>	<i>Tinctura Belladonnae</i> (Made from belladonna root.)	<i>Tinctura Belladonnae</i> <i>Belladonnae tinctura seu Tinctura Belladonnae</i> (P. I.).	Not official.
Strength.....	10 per cent.....		Same as P. I.	
Menstruum.....	Alcohol (70 per cent).....		Same as P. I.	
Requirement.....			Color, odor, taste, solubility, assay, chemical test.	

Extractum Belladonnae:					
Title.....	Belladonnae extractum seu Extractum Belladonnae.	Extractum Belladonnae Belladonnae extractum seu Extractum Belladonnae (P. I.).	Extractum Belladonnae (Formula Internationalis) Belladonnae extractum.		
Requirement.....	Solid extract (containing about 10 per cent of water) made with alcohol (70 per cent).	1 per cent alkaloids.....	1 per cent alkaloids.....		Solubility, chemical assay.
Colchicum autumnale (L.):					
Title.....	Colchici semen seu Semen Colchici.	Colchici Semina.....	Colchici Semina.....		Semen Colchici.
Requirement.....	Use only the seed.....	General characteristics, taste, 0.7 per cent of colchicine.	General characteristics, taste, 0.7 per cent of colchicine.		Same as P. I., general structural characteristics, taste and chemical reaction.
Tinctura Colchici:					
Title.....	Colchici tinctura seu Tinctura Colchici.	Tinctura Colchici Seminum.....	Tinctura Colchici.....		Tinctura Colchici.
Strength.....	10 per cent.....	20 gm. in 100 cc.....	Same as P. I.....		Same as P. I.
Menstruum.....	Alcohol (70 per cent).....	Alcohol (45 per cent).....	Same as P. I.....		Same as P. I.
Requirement.....			Color, taste, behavior with water, chemical test.		Appearance and behavior with water.
Digitalis purpurea (L.):					
Title.....	Digitalis folium seu Folium Digitalis.	Digitalis Folia.....	Folium Digitalis.....		Folia Digitalis.
Requirement.....	The leaf of the 2nd year.....	General characteristics.....	Digitalis folium seu Folium Digitalis (P. I.).		Digitalis folium seu Folium Digitalis.
			Same as P. I., origin, general and microscopic characteristics, chemical test. Limit of ash (10 per cent).		General and microscopic structure. May be kept one year.
Tinctura Digitalis:					
Title.....	Digitalis tinctura seu Tinctura Digitalis.	Tinctura Digitalis.....	Tinctura Digitalis.....		Tinctura Digitalis.
Strength.....	10 per cent.....	12.5 gm. in 100 cc.....	Digitalis tinctura seu Tinctura Digitalis (P. I.).		(Formula Internationalis) Digitalis tinctura.
Menstruum.....	Alcohol (70 per cent).....	Alcohol (60 per cent).....	Same as P. I.....		Same as P. I.
Requirement.....			Color, odor, taste, behavior with water and chemical test.		Color, odor, taste, and behavior with water.

COMPARATIVE TABLE SHOWING THE DEGREE OF COMPLIANCE IN THE SEVERAL PHARMACOPÆIAS PUBLISHED IN 1907, ETC.—Continued.

	Protocol, International.	B. P. C.	Ph. Helv. IV.	Ph. Dan. VII.
Uragoga ipecacuanhæ (Baill.): Title.....	Ipecacuanhæ radix seu Radix Ipecacuanhæ.	Ipecacuanhæ Radix.....	Radix Ipecacuanhæ..... Ipecacuanhæ radix seu Radix Ipecacuanhæ (P. I.).	Radix Ipecacuanhæ.
Requirement.....	Only the root bark to be used. The powder to have an alkaloidal strength of 2 per cent.	Rio Ipecac, general characteristics..	Same as P. I., general and microscopic characteristics, assay, chemical test limit of ash (not more than 4 and not less than 1.8 per cent alkaloids).	Same as P. I., general and micro- scopic characteristics, chemical test.
Tinctura Ipecacuanhæ: Title.....	Ipecacuanhæ tinctura seu Tinc- tura Ipecacuanhæ.	Not official.....	Tinctura Ipecacuanhæ..... Ipecacuanhæ tinctura seu Tinctura Ipecacuanhæ (P. I.).	Not official.
Strength.....	10 per cent.		Same as P. I.	
Menstruum.....	Alcohol (70 per cent)		Same as P. I.	
Requirement.....			Color, odor, taste, assay (0.2 per cent total alkaloid) chemical test.	
Syrupus Ipecacuanhæ: Title.....	Ipecacuanhæ sirupus seu Sirupus Ipecacuanhæ.	Syrupus Ipecacuanhæ.....	Sirupus Ipecacuanhæ..... Ipecacuanhæ sirupus seu Sirupus Ipecacuanhæ (P. I.).	Not official.
Strength.....	10 per cent of the tincture.....	About 2 per cent.....	Same as P. I.	
Hyoscyamus Niger (L.): Title.....	Hyoscyami folium seu Folium Hyoscyami.	Hyoscyami Folia.....	Folium Hyoscyami..... Hyoscyami folium seu Folium Hy- oscyami (P. I.).	Folia Hyoscyami. Hyoscyami folium seu Folium Hyoscyami.
Requirement.....	Use only the leaf.....	Fresh leaves, flowering tops and branches; general characteristics. From 0.05 to 0.14 per cent of alk- aloids.	Same as P. I., origin, general and mi- croscopic characteristics.	General and microscopic character- istics; limit for ash; may be kept one year.

Tinctura Hyoscyami: Title.....	Hyoscyami tinctura seu Tinctura Hyoscyami.....	Tinctura Hyoscyami.....	Not official.....	Not official.
	Strength.....	10 gm. in 100 cc.....	.....	.....
	Menstruum.....	Alcohol (70 per cent).....	.....	.....
Extractum Hyoscyami: Title.....	Hyoscyami extractum seu Extractum Hyoscyami.....	Extractum Hyoscyami Exsiccatum.....	Extractum Hyoscyami.....	Extractum Hyoscyami. (Formula Internationalis.) Hyoscyami extractum. Same as P. I. Color, solubility, test for alkaloids.
	Menstruum.....	Alcohol (70 per cent).....	Same as P. I.....	.....
	Requirement.....	Solid extract (containing about 10 per cent of water).....	Color, solubility, assay (0.3 per cent alkaloids).....	.....
Strychnos nux vomica (L): Title.....	Strychni semen seu Semen Strychni seu Nux vomica.....	Nux Vomica.....	Semen Strychni.....	Semen Nucis vomicae.
	Requirement.....	General characteristics; average seeds contain from 2.5 to 3 per cent of total alkaloids.....	Strychni semen seu Semen Strychni seu Nux vomica (P. I.). Same as P. I., general and microscopic characteristics.....	Semen Strychni seu Strychni semen seu Nux vomica. Same as P. I., general and microscopic characteristics, taste.
Tinctura nucis vomicae: Title.....	Strychni tinctura seu Tinctura Strychni; Nucis vomicae tinctura seu Tinctura Nucis vomicae.....	Tinctura Nucis vomicae.....	Tinctura Strychni.....	Tinctura Nucis vomicae.
	Strength.....	16.66 per cent.....	Strychni tinctura seu Tinctura Strychni; Nucis vomicae tinctura seu Tinctura Nucis vomicae (P. I.). Same as P. I.....	(Formula Internationalis.) Strychni tinctura seu Tinctura Strychni.
	Menstruum.....	Alcohol (70 per cent).....	Same as P. I.....	.....
Extractum Nucis vomicae: Title.....	Requirement.....	From 0.24 to 0.26 per cent w/v of strychnine.....	Same as P. I.; color, taste, assay.....	Same as P. I. Same as P. I. 0.225 to 0.275 per cent total alkaloids; color, behavior, and taste.
	Extractum Nucis vomicae.....	Extractum Nucis Vomicae.....	Extractum Strychni.....	Extractum Nucis Vomicae.
	Strength.....	10 per cent.....	Strychni extractum seu Extractum Strychni; Nucis vomicae extractum seu Extractum Nucis vomicae (P. I.).....	(Formula Internationalis.) Strychni extractum seu Extractum Strychni.
Menstruum.....	Requirement.....	Alcohol (70 per cent).....	Same as P. I.....	Same as P. I.
	Requirement.....	16 per cent total alkaloids.....	Same as P. I.; color, taste, and solubility.....	15 to 17 per cent total alkaloids; color, solubility, and taste.

COMPARATIVE TABLE SHOWING THE DEGREE OF COMPLIANCE IN THE SEVERAL PHARMACOPÆIAS PUBLISHED IN 1907, ETC. Continued.

	Protocol, International.	B. P. C.	Ph. Helv. IV.	Ph. Dan. VII.
Opium:				
Title.....	Opil pulvis seu Pulvis Opil.....	Opium.....	Opium.....	Opium.
Requirement.....	Powder to be dried at 60° C.; morphine 10 per cent.	Origin, general characteristics, moisture, extract, from 9.5 to 10.5 per cent of morphine.	Same as P. I., origin, appearance, and assay.	To be dried at 60° C.; general and microscopic characteristics; 9.5 to 10.5 per cent morphine.
Extractum Opil:				
Title.....	Opil Extractum seu Extractum Opil.	Extractum Opil.....	Extractum Opil.....	Not official.
Requirement.....	Morphine, 20 per cent.....	Aqueous extract; about 20 per cent of morphine.	Opil extractum seu Extractum Opil. (P. I.) Color, solubility, assay same as P. I....	
Tinctura Opil:				
Title.....	Opil tinctura seu Tinctura Opil.....	Tinctura Opil.....	Tinctura Opil.....	Tinctura Thebacea.
Strength.....	10 per cent.....	7.5 gm. in 100 cc.....	Opil tinctura seu Tinctura Opil. (P. I.)	(Formula Internationals.) Opil tinctura seu Tinctura Opil.
Menstruum.....	Alcohol (70 per cent).....	Alcohol and water.....	Same as P. I.....	Same as P. I.
Requirement.....	Morphine, 1 per cent.....	About 0.75 per cent w/v of anhydrous morphine.	Same as P. I.; color, odor, taste.....	Same as P. I.; color, odor, taste, extract content.
Tinctura Opil crocata:				
Title.....	Opil tinctura crocata seu Tinctura Opil crocata seu Laudanum Sydenhami.	Tinctura Opil Crocata.....	Tinctura Opil crocata.....	Tinctura Thebacea Crocata.
Strength.....	10 per cent opium.....	5 gm. in 100 cc.....	Opil tinctura crocata seu Tinctura Opil crocata seu Laudanum Sydenhami (P. I.).	(Formula Internationals) Opil tinctura crocata seu Tinctura opil crocata seu Laudanum Sydenhami (Liquidum).
Menstruum.....	Menstruum.....	Deftannated sherry wine.....	Same as P. I.....	Same as P. I.
Requirement.....	Morphine 1 per cent.....		Alcohol (70 per cent).....	Alcohol (70 per cent).
			Same as P. I.; color, odor, taste, solubility.	Same as P. I.; color, odor, taste, extract content.

Pulvis ipecacuanhæ et opii: Title.....	Pulvis ipecacuanhæ pulvis compositus seu Pulvis Doveri.	Pulvis Ipecacuanhæ Compositus..	Pulvis Ipecacuanhæ opiatu. Opil et Ipecacuanhæ pulvis compositus seu Pulvis Doveri (P. I.).	Pulvis Ipecacuanhæ Thebaicus. (Formula Internationalis. Opil et Ipecacuanhæ pulvis compositus seu Pulvis Doveri. Same as P. I.
Requirement.....	To contain 10 per cent of powdered opium.	Opium 10 per cent.....	Same as P. I., color, odor.....	Same as P. I.
Tinctura Opil Camphorata: Title.....	Opil tinctura benzolca seu Tinctura Opil benzolca.	Tinctura Camphora Composita....	Tinctura Opil benzolca..... Opil tinctura benzolca seu Tinctura Opil benzolca (P. I.).	Tinctura Thebaica benzolca. (Formula Internationalis) Opil Tinctura benzolca seu Tinctura Opil benzolca.
Requirement.....	Morphine 0.05 per cent.....	Tincture of opium 6 per cent.....	Tincture of opium 5 per cent; color, odor, taste, reaction.	Color, odor, behavior with water.
Tinctura Strophanthi: Title.....	Strophanthi tinctura seu Tinctura Strophanthi.	Tinctura Strophanthi.....	Tinctura Strophanthi..... Strophanthi tinctura seu Tinctura Strophanthi (P. I.).	Tinctura Strophanthi. Strophanthi tinctura.
Strength.....	10 per cent.....	2.5 gm. in 100 cc.....	Same as P. I.....	Same as P. I.
Menstruum.....	Alcohol (70 per cent).....	Alcohol (70 per cent).....	Same as P. I.....	Same as P. I.
Requirement.....	Seeds not to be freed from fat.....		Color taste, behavior with water, chemical test.	Color, taste, limit of taste, and behavior with water.
Sclerotium clavicipitis purpure (Tul) seu Clavicipiti purpure (Tul) Sclerotium: Title.....	Secale cornutum seu Ergotum Secale.	Ergola.....	Secale cornutum..... Secale cornutum seu Ergotum secale; Sclerotium clavicipitis purpuree Tulasne seu Clavicipitis purpuree Tulasne sclerotium. (P. I.)	Secale Cornutum. Ergotum Secale.
Requirement.....	Not to be more than one year old and to be kept whole.	Origin, general characteristics.....	Same as P. I.; origin, general and microscopic characteristics.	General and microscopic characteristics, chemical reaction; may be kept for one year.

COMPARATIVE TABLE SHOWING THE DEGREE OF COMPLIANCE IN THE SEVERAL PHARMACOPÆIAS PUBLISHED IN 1907, ETC.—Continued.

	Protocol, International.	B. P. C.	Ph. Helv. IV.	Ph. Dan. VII.
Extractum Ergotæ: Title.....	Secalis cornuti extractum seu Extractum Secalis cornuti; Ergoti extractum seu Extractum Ergoti.	Extractum Ergotæ.....	Extractum secalis cornuti Secalis cornuti extractum seu Extractum Secalis cornuti; Ergoti extractum seu Extractum Ergoti (P. I.).	Extractum secalis cornuti. (Formula Internationalis) Secalis cornuti extractum seu Ergoti extractum seu Extractum Ergoti.
Menstruum & Requirement.	Prepare a watery extract and make up with alcohol (60 per cent).	Alcohol (60 per cent) treated with hydrochloric acid and neutralized with sodium carbonate.	Extracted with chloroform water; treated with alcohol. Color, odor, taste, solubility, chemical test.	Same as P. I.; color and solubility.
Fluidextractum Ergotæ: Title.....	Secalis cornuti extractum fluidum seu Extractum fluidum Secalis cornuti; Ergoti extractum fluidum seu Extractum fluidum Ergoti.	Extractum Ergotæ Liquidum.....	Extractum Secalis cornuti fluidum... Secalis cornuti extractum fluidum seu Extractum fluidum Secalis cornuti; Ergoti extractum fluidum seu Extractum fluidum Ergoti (P. I.).	Extractum fluidum Secalis cornuti. (Formula Internationalis) Extractum fluidum Ergoti.
Strength.....	100 per cent.....	100 gm. in 100 cc.....	Same as P. I.....	Same as P. I.
Menstruum.....	.....	Extract with water; treat with alcohol.	Mixture of dilute acetic acid, alcohol, and water.	Alcohol (70 per cent) treated with dilute hydrochloric acid.
Requirement.....	.....	.....	Color, odor, taste, solubility, chemical test, extract.	Color, solubility.
Acidum Hydrocyanicum Dilutum: Title.....	Acidum hydrocyanicum dilutum.	Acidum hydrocyanicum dilutum.	Not official.....	Not official.
Requirement.....	Strength 2 per cent.....	2 per cent by weight; color, odor, chemical test.	.....	.....
Aqua Amygdalæ: Title.....	Amygdalæ amaræ aqua seu Aqua Amygdalæ amaræ.	Aqua Amygdalæ amaræ.....	Not official.....	Aqua Amygdalæ amaræ concentrata. (Formula Internationalis) Amygdalæ amaræ aqua seu Aqua Amygdalæ amaræ.

Requirement.....	Strength 0.10 per cent.....	Solution of 0.10 per cent of oil of bitter almonds in water.		Same as P. I.; appearance, chemical reaction, method of keeping.
Aqua Laurocerasi: Title.....	Laurocerasi aqua seu Aqua Laurocerasi.	Aqua Laurocerasi.....	Aqua Laurocerasi.....	Not official.
Requirement.....	Strength 0.10 per cent.....	0.1 per cent hydrocyanic acid.		
Aqua Phenolata: Title.....	Phenoli solutio seu Aqua Phenolata.	Not official.....	Aqua phenolata.....	Solutio Phenoli. (Formula Internationalis) Solutio acidi carbolici Ph. D. 1893. Phenoli solutio seu Aqua phenolata.
Requirement.....	Strength 2 per cent.....		1.94 to 1.99 per cent of absolute phenol.	Same as P. I.
Sodii Arsenas: Title.....	Arsenas sodii seu Sodii arsenas; Arsenicum natrium seu Natrium arsenicum.	Sodii Arsenas.....	Natrium arsenicum.....	Not official.
Requirement.....	The crystallized salt containing 36.85 per cent of arsenic acid.	Anhydrous salt (equivalent to 1.67 parts of crystalline salt), chemical test.	Arsenicum natrium (P. I.). 36.83 arsenic acid, 24.02 per cent arsenic; assay, chemical tests.	
Liquor Potassii Arsenitis: Title.....	Arsenicalls liquor Fowleri seu Liquor Arsenicalls Fowleri seu Kali Arsenicosi liquor.	Liquor Arsenicalls.....	Kalium arsenicosum solum.....	Liquor Arsenitis kaliei. (Formula Internationalis.) Arsenicalls liquor Fowleri seu Liquor arsenicalls Fowleri seu Kali arsenicosi liquor.
Requirement.....	Strength in arsenious acid 1 per cent.	1 per cent arsenious acid; color, taste, incompatibility.	Same as P. I.....	1 per cent arsenious acid; appearance, odor, and chemical test.
Syrupus Ferri Iodidi: Title.....	Ferri Iodidi sirupus seu Sirupus Iodeti ferrosi seu Sirupus ferri Iodati.	Syrupus Ferri Iodidi.....	Sirupus Ferri Iodati.....	Syrupus Iodeti ferrosi. (Formula Internationalis) Ferri Iodidi sirupus seu Sirupus Iodeti ferrosi seu Sirupus Ferri Iodati (P. I.).
Requirement.....	Strength in anhydrous ferrous iodide 5 per cent.	About 10 per cent of ferrous iodide..	Same as P. I.; color, chemical test, assay.	Same as P. I.; color and method of keeping.

	Protocol, International.	B. P. C.	Ph. Helv. IV.	Ph. Dan. VII.
<i>Tinctura Cantharidis:</i>				
Title.....	Cantharidis tinctura seu Tinctura Cantharidis.	Tinctura Cantharidis.....	Tinctura Cantharidis..... Cantharidis tinctura seu Tinctura Cantharidis (P. I.).	Not official.
Strength.....	10 per cent.....	1.25 gm. in 100 cc.....	Same as P. I.....	
Menstruum.....	Alcohol (70 per cent).....	Alcohol (90 per cent).....	Same as P. I.....	
Requirement.....			Color, odor, taste, solubility.....	
<i>Tinctura Iodi:</i>				
Title.....	Iodi tinctura seu Tinctura Iodi.....	Tinctura Iodi.....	Tinctura Iodi..... Jodi tinctura seu Tinctura Jodi (P. I.).	Solutio Iodi spirituosu concentrata. (Formula Internationalis) Jodi tinctura seu Tinctura Jodi.
Strength.....	10 per cent.....	2.5 gm. in 100 cc.....	Same as P. I.....	Same as P. I.
Menstruum.....	Alcohol (95 per cent).....	Alcohol (90 per cent).....	Same as P. I.....	Same as P. I.
Requirement.....			Color, odor, behavior, assay. Should be freshly prepared.	Appearance, odor, and general behavior. Assay method.
<i>Tinctura Lobellae:</i>				
Title.....	Lobellae tinctura seu Tinctura Lobellae.	Tinctura Lobellae.....	Tinctura Lobellae..... Lobellae tinctura seu Tinctura Lobellae (P. I.).	Tinctura Lobellae. (Formula Internationalis).
Strength.....	10 per cent.....	12.5 gm. in 100 cc.....	Same as P. I.....	Same as P. I.
Menstruum.....	Alcohol (70 per cent).....	Alcohol (50 per cent).....	Same as P. I.....	Same as P. I.
Requirement.....			Color, taste, solubility, chemical test.....	Color, taste, and behavior with water.
<i>Cocainæ Hydrochloridum:</i>				
Title.....	Cocainum Hydrochloricum.....	Cocainæ Hydrochloridum.....	Cocainum hydrochloricum..... Cocainum hydrochloricum (P. I.)	Chloretum cocacum. Cocainum hydrochloricum.
Requirement.....			Melting point 182° C., chemical tests.....	Same as P. I., chemical tests.
<i>Unguentum Hydrargyri:</i>				
Title.....	Hydrargyri unguentum seu Unguentum Hydrargyri.	Unguentum Hydrargyri.....	Unguentum Hydrargyri cinereum..... Hydrargyri unguentum seu Unguentum Hydrargyri (P. I.)	Unguentum Hydrargyri.

	Protocol, International.	B. P. C.	Ph. Helv. IV.	Ph. Dan. VII.
Strength.....	30 per cent.....	About 48 per cent of metallic mercury.	Same as P. I.....	Same as P. I.
Requirement.....		Unguentum Hydrargyri Dilutum contains 33 per cent of mercury ointment.	Color, assay.....	Color and extinction of mercury.
Vinum Antimonii: Title.....	Antimoniale vinum seu Vinum Antimoniale; Stibiatum vinum seu Vinum Stibiatum.	Vinum Antimoniale.....	Vinum Stibiatum..... Antimoniale vinum seu Vinum Antimoniale; Stibiatum vinum seu Vinum Stibiatum (P. I.)	Not Official.
Strength.....	In tartar emetic 0.40 per cent.....	0.457 w/v per cent tartar emetic.....	Same as P. I.....	
Requirement.....			Chemical Test; color.....	

3. DROPS AND DROPPERS.

Thomann, J., points out that the Ph. Helv. IV includes a drop table, based on the international drop counter, giving the number of drops of various medicaments that are required to weigh one gm. and also giving the weight of the individual drops.—Schweiz. Wchnschr. f. Chem. u. Pharm. Zürich, 1907, v. 25, p. 749.

A similar table is also included in the Ph. Dan. VII.

2. FOREIGN PHARMACOPŒIAS.

1. BRITISH PHARMACEUTICAL CODEX.

The British Pharmaceutical Codex, an imperial dispensatory for the use of medical practitioners and pharmacists.

By authority of the council of the Pharmaceutical Society of Great Britain. Published by the Pharmaceutical Society at 72 Great Russell street, London, W. C., 1907.

This book, held somewhat in the nature of a pharmacopœia, is virtually an elaborated British Pharmacopœia containing in addition to the text of the Ph. Brit. IV descriptions of a number of drugs and chemical substances not recognized by the pharmacopœia; also a very large number of formulas for galenical preparations that are in more or less widespread use in Great Britain.

The book contains a total XII and 1,425 pages, and comprises a total of 2,061 titles, including 49 animal drugs, 397 vegetable drugs, 442 chemical substances, 1,138 galenical preparations, and 35 general formulas or descriptive headings.

A book review of the B. P. C. asserts that the work is one of considerable magnitude. "The book is drawn up on pharmacopœial lines, and its scope, according to the preface, is that of an imperial dispensatory."—Pharm. J. Lond., 1907, v. 25, pp. 464-465.

Martin, N. H., criticises the new B. P. C. and suggests that a more suitable name for the book would have been "The Imperial Pharmaceutical Codex."—Chem. & Drug., Lond., 1907, v. 70, p. 690.

Robinson, R. A., jr., points out that in the matter of standards the codex does four things: (1) It confirms some of the standards of purity and "characters and tests" of the Ph. Brit.; (2) it contradicts some standards and tests of the Ph. Brit., alleging that they are impossible or valueless; (3) it offers certain alternative standards and tests for Ph. Brit. articles—notably for those used extensively for nonmedicinal purposes; (4) it suggests certain new standards and tests for medicaments at present unofficial.—Pharm. J. Lond., 1907, v. 25, p. 508.

Peck, E. Saville, points out that the B. P. C. is truly a monument of industry, and while there is much to be criticised about the book he believes that these shortcomings can readily be corrected in future revisions.—Brit. & Col. Drug., Lond., 1907, v. 52, pp. 440-441.

Gadd, H. Wippell, says that one misses from the codex a feature which would have been of considerable value, namely, new and revised tests and methods of valuation of drugs, for which there are at present no satisfactory official processes of assay. Thus, for example, whilst it is notorious that the official process for the estimation of nuxvomica preparations gives results varying with the taste and fancy of the experimenter, no alternative or modified method is given in the codex.—*Pharm. J. Lond.*, 1907, v. 25, p. 476.

Hill, C. A., criticises the B. P. C. from a manufacturing chemist's point of view and points out the discontinuity of the monographs, the unnecessary duplication of preparations, some of the objectionable features of the nomenclature adopted, and some of the errors that will result from the adoption of international atomic weights for the chemicals and Ph. Brit. atomic weights for the test solutions.—*Chem. & Drug.*, Lond., 1907, v. 71, p. 757.

Simpson, J. M., criticises the B. P. C., particularly the unnecessary multiplication of similar preparations, all having some little difference to pander to the vagaries of the prescriber.—*Ibid.*, v. 71, p. 846.

Gadd, H. Wippell, believes that the nomenclature of the B. P. C. is somewhat pedantic, the compilers having unearthed uncommon terms which might well have been left in obscurity. He also criticises a number of the newly coined names.—*Brit. & Col. Drug.*, Lond., 1907, v. 52, p. 389.

Dunhill, T. P., discusses the scope and the content of the B. P. C. and points out that the inclusion of a number of polypharmaceutical preparations would indicate that the book does not represent twentieth-century science but is a dictionary of pharmaceutical products, and as such fulfills a function.—*Australas. J. Pharm.*, Melbourne, 1907, v. 22, pp. 359–360.

A number of corrections and alterations suggested for the B. P. C., supplementary to those published in the book itself, are presented.—*Pharm. J.*, Lond., 1907, v. 25, p. 597.

Bevan, E. J., points out that some notion of the magnitude of the B. P. C. may be obtained by comparison of the index of some 100 pages, containing about 12,000 references, with the index of the Ph. Brit. IV, which contains between 3,000 and 4,000 references.—*Ibid.*, v. 25, p. 507.

Some additional comments on the B. P. C. are presented.—*Ibid.*, v. 24, pp. 468–479, 488–491; v. 25, pp. 507–509, 602–604, 702–705.

2. SWISS.

. *Pharmacopœa Helvetica*, editio quarta, German edition, was published in Berne, Switzerland, 1907, and contains XXXIV and 639 pages. 517 pages are devoted to monographs on drugs and prepa-

rations; 70 pages are devoted to tables of reagents, drops, maximum doses, table of the essential ingredients, and the percentage content of the several preparations, the presentation of a variety of analytical data, and finally, a comprehensive index of titles and synonyms covering 51 double-column pages.

The book contains a total of 853 titles, including 20 animal drugs, 224 vegetable drugs, 227 chemical substances, 353 galenical preparations, and 29 general formulas or descriptive headings.

The revision committee, directly responsible for the preparations of the *Ph. Helv. IV*, consisted essentially of the chairmen of nine subcommittees, including: 1, Crude drugs; 2, Inorganic preparations; 3, Organic preparations; 4, Galenical preparations; 5, Wines; 6, Serums and related substances; 7, Maximum doses, separanda; 8, Chemical and pharmaceutical tables; 9, Editorial committee. The general committee transacted the greater portion of its work by correspondence, though much of the work was transacted at the annual meetings of the committee, at which all of the final conclusions were discussed. The articles added to the *Ph. Helv. IV* amounted to 151, while those official in the *Ph. Helv. III*, not included in the present revision, numbered 96.

The fundamental principle guiding the admission of articles to the *Ph. Helv. IV* is defined as requiring that all articles used in the production of any preparation in the pharmacopœia, be described in a special monograph. Exceptions are made, however, in the case of aqua fontana, pastilli sacchari, and a number of other substances not considered of essential value or sufficiently active to be considered as medicinal ingredients.

The provisions of the International Conference for the Unification of Potent Medicaments have been closely followed, all of the remedies enumerated in the protocol being designated by the addition of the letters (P. I.).

A review of the *Ph. Helv. IV* calls attention to the definition for medicaments included in the *Ph. Helv. IV*, as follows: Medicines are substances used for the prevention or removal of abnormal conditions or processes in the human or animal organism or for the amelioration of disturbing, disagreeable, or dangerous phenomena.—*Pharm. Ztg., Berl., 1907, v. 52, p. 871.*

Thomann, J., reviews the *Ph. Helv. IV*, and points out that because of the numerous changes that it contains Swiss pharmacy is about to enter upon a new era. In concluding he asserts that while this pharmacopœia has its shortcomings the spirit that is evidenced and the scientific advances that are embodied serve to indicate that the book represents progress in pharmacognosy and will be liberally consulted in the revision of other national pharmacopœias.—*Schweiz.*

Wehnschr. f. Chem. u. Pharm. Zürich, 1907, v. 45, pp. 625-628, 650-652, 669-671, 678-701, 714-720, 746-752.

Berger, F., criticises a number of requirements made by the Ph. Helv. IV, and points out a number of descriptions that fail to be uniform or show a lack of clearness.—*Ibid.*, v. 45, pp. 789-793.

Thomann, J., replies to the above.—*Ibid.*, v. 45, pp. 793-794.

An unsigned article reviews the Ph. Helv. IV, describes the book, enumerates some of the new additions, and points out some of the more characteristic features.—Pharm. Ztg., Berl., 1907, v. 52, pp. 870-871. (See also p. 893.)

Hanny, T., discusses the Ph. Helv. IV, and asserts that the book is a work bigger, handsomer, and in many ways more complete than either the Ph. Germ. or the Ph. Brit.—Chem. & Drug., Lond., 1907, v. 71, p. 617.

The Ph. Helv. IV is also reviewed at some length in Am. J. Pharm., Phila., 1907, v. 79, p. 573.

3. DANISH.

The Pharmacopœa Danica, 1907, published by royal decree, is printed in the vernacular, and is a comparatively small, 8 vo. book, containing a total of 522 pages. Six pages are devoted to the introduction and 402 to the monographs on drugs and preparations. An appendix of 52 pages is devoted to tables, and this is followed by rather a complete index of Latin names and a separate index of Danish names.

This pharmacopœia contains a total of 489 titles, including 14 animal drugs, 128 vegetable drugs, 144 chemical substances, 181 galenical preparations, and 22 general formulas or descriptive headings.

The weights and measures used are those of the metric system, and parts are designated as meaning parts by weight.

The degrees of temperature are those of the centigrade thermometer, and where not otherwise designated 15° C. is to be understood.

Maceration is to be conducted at 15-25° and digestion at from 35° to 45°.

Luke warm water is to be understood as having a temperature of from 35-45°, warm water is 60° or over.

A method for the determination of melting points is outlined; also a method for determining the solubility of substances.

The collecting and drying of plant drugs is also outlined, and the method of describing the various characteristics is indicated.

The preservation of drugs and chemicals is also outlined.

Ph. Dan. VII includes a table giving the number of drops of different official liquids necessary to weigh 1 gram, using the international drop counter.

An unsigned article reviews the Ph. Dan. VII. The former editions of this pharmacopœia were published in 1772, 1805, 1840, 1850, 1868, and 1893. The present 1907 edition is the first to be printed in the vernacular, though a Danish reprint of the 1893 pharmacopœia was published.—Schweiz. Wehnschr. f. Chem. u. Pharm. Zürich, 1907, v. 45, pp. 477-479.

Møller, H. J., reviews the new Ph. Dan. VII and calls attention to some of the more important changes.—Arch. f. Pharm. og. Chem., Copenhagen, 1907, v. 14, pp. 257-265.

Wöhlk, Alfred, presents a review of the tests for chemicals embodied in the Ph. Dan. VII, describes and figures some of the apparatus that is necessary, gives a table enumerating the limit of ash in the several drugs, and discusses in detail the tests for the several official articles.—*Ibid.*, v. 14, pp. 277-281, 301-305, 321-327, 335-343, 350-356, 365-373, 381-387, 398-400, 447-451.

Gram, Bille, reviews the pharmacognosy of the Ph. Dan. VII.—*Ibid.*, v. 14, pp. 477-479.

Delphin, T., reviews the new Ph. Dan. VII and calls attention to the several changes that are embodied therein.—Svensk, farm. Tidskr., 1907, v. 11, pp. 343-348, 365-371.

Westling, R., discusses the drugs in the Ph. Dan. VII.—*Ibid.*, v. 11, pp. 381-385, 401-407.

An unsigned article reviews the Ph. Dan. VII and discusses the form of the Latin nomenclature.—Pharm. Ztg. Berl., 1907, v. 52, pp. 530-531.

Greenish, Henry G., reviews the new Ph. Dan. and calls attention to some of the more prominent characteristics, and concludes that on the whole this book will probably leave upon the mind of the British pharmacist the impression of not being quite up-to-date. This will be particularly noticeable in the qualitative and quantitative tests, and to a less extent in the galenical preparations. On the other hand, in the general arrangement and in the description of vegetable drugs it is well in the front rank.—Pharm. J. Lond., 1907, v. 25, p. 463.

Schimmel & Co. (Semi Ann. Rep., October, 1907, p. 102), point out that as compared with the old Ph. Dan., 1893, the new edition has no additional directions for testing volatile oils, so that generally only the color, odor, specific gravity, and solubility are taken into consideration. On the other hand, a great number of erroneous statements in the old pharmacopœia have been corrected, and the requirements specified by the new edition may be characterized almost without exception as being to the point.

4. AUSTRIAN.

Wulff, C., reviews the Ph. Austr. VIII at some length, and calls attention to a number of interesting features embodied in this

pharmacopœia.—Apoth. Ztg., Berl., 1907, v. 22, pp. 877-879, 888-890, 897-898, 905-906, 928-929, 940-942, 949, 961-962, 969-971, 978-982, 1009-1010, 1019-1022, 1032-1033.

5. BELGIAN.

Schamelhout, A., reviews the articles contained in the Ph. Belg. III.—Bull. Soc. roy. de pharm., Brux., 1907, v. 51, pp. 10-21, 33-41, 65-78, 97-106, 129-144, 160-170, 193-208, 225-241, 257-266, 289-304, 321-334, 353-367.

Flurey reviews the Ph. Belg. III, and calls attention to some of the characteristic features announced in the preface.—Apoth. Ztg., Berl., 1907, v. 22, pp. 107-109, 118, 125-127, 135-136, 145-146, 153, 161-162.

Bougault, J., criticises the arrangement of the Ph. Belg. III; he thinks the grouping by pharmaceutical forms more practical and more generally adopted in other pharmacopœias. While the plan of giving the process of preparation of medicaments of the same group, in one article under the name of the pharmaceutic form avoids repetition, this conciseness may be carried to an extreme, because there are frequently special details with reference to certain medicaments which should be taken into consideration to secure uniformity. In the descriptions of the assays, perspicuity is sacrificed to brevity, the object in view should be indicated, also the proportion of the principle upon which the activity of the medicament depends. He credits Belgium with the honor of organizing the Brussels conference, but regrets that the international formulas are not indicated in the text. He notes the list of apparatus which the pharmacist is required to have, and wonders that there is no corresponding list of reagents. The directions as to dosage he commends for adoption in the forthcoming edition of the Codex.—J. de pharm. et de chim., Par., 1907, v. 25, pp. 244-250.

Vecray, F. L., (Gaz. Med. Belg.) points out some of the peculiarities of the new edition of the Ph. Belg.—Pharm. Era., N. Y., 1907, v. 37, p. 107.

6. JAPANESE.

An unsigned article reviews the English translation of the Ph. Japon. III, points out some of the new additions and calls attention to the general adherence to widely established standards and the similarity in arrangement and content with the Ph. Germ., thus evidencing an appreciation of the possibilities of international standards.—Pharm. Ztg. Berl., 1907, v. 52, p. 962.

An editorial discusses an epitomised review of the Ph. Japon. III and points out that so far as one is able to judge the allegation by some Japanese pharmacists that the new edition is merely a trans-

lation of the German "Arzneibuch" is not justified. Naturally, it approximates to occidental pharmacopœias, but it is not a slavish copy of any.—*Chem. & Drug.*, Lond., 1907, v. 71, pp. 648-649.

Howards & Sons point out that the general lines followed by this pharmacopœia are those of the Ph. Germ. IV, but the severity of the standards of various articles differs considerably, often being too lenient and often too severe for ordinary commercial requirements.—*Ibid.*, v. 71, p. 693.

An unsigned article reproduces a notice issued by the Government of Japan to the effect that the enforcement of the provisions of the new Ph. Japon. have been deferred to January 1, 1908.—*Ibid.*, v. 71, p. 133.

Van Schoor, O., reviews the Ph. Japon. III (German translation), calls attention to some of the more characteristic features, and concludes that it is a thoroughly modern book, devoid of antiquated or useless medicaments, containing practically all of the really useful articles in the "arsenal" of medicine.—*J. de pharm. d'Anvers*, 1907, v. 63, pp. 917-925.

An unsigned article calls attention to the German translation of the Ph. Japon. III, published in Osaka.—*Pharm. Weekbl.*, 1907, v. 44, p. 1368.

Weigel, G., presents a review of the new Ph. Japon., its style, contents, and general arrangement; also discusses the drugs, chemicals, and galenical preparations that have been included.—*Pharm. Zentralh.*, 1907, v. 48, pp. 909-914.

An unsigned article discusses some of the features of the Ph. Japon. III and reproduces a list of errata in the English translation.—*Chem. & Drug.* Lond., 1907, v. 71, pp. 692-693.

The English translation of the Ph. Japon. III contains the following:

NOTICE.

Neither the Pharmaceutical Society of Japan nor the translator is responsible for any loss, damage, or controversy which may arise either from misinterpretation of the original Japanese Pharmacopœia or from any errors which may occur in the printing. All corrections and suggestions will be thankfully received.

7. BRITISH.

"Gnomon" asserts that the national medicine book has never been a source of general information for pharmacists, because medical men do not appreciate the needs of pharmacists, so far as works of reference are concerned.—*Pharm. J.* Lond., 1907, v. 24, p. 170.

Hornblower, J. T., is reported as discussing the Ph. Brit. as a book of reference; he emphasized its defects as a source of general informa-

tion for pharmacists, and suggested that the medical council extend the information contained in the pharmacopœia so as to make it more valuable as a book of reference.—*Ibid.*, v. 24, p. 143.

Schimmel & Co. (Semi-Ann. Rep., April, 1907, pp. 107–108) point out that the British Pharmacopœia Commission has issued proposals for altering the tests of a large number of official preparations.

An editorial points out that the committee of reference in pharmacy has reported to the pharmacopœia committee of the General Medical Council on the changes that will be necessary in the next issue of the Ph. Brit. in order to give effect to the international agreement for the unification of pharmacopœial formulas for potent preparations. The committee of reference shows that effect can be given with comparative ease to some of the changes suggested in the agreement. It is pointed out, however, that a few of the proposals are both retrograde and dangerous, while others will involve much inconvenience or will actually be impracticable.—Pharm. J. Lond., 1907, v. 24, p. 487.

The Ph. Brit. committee of reference in pharmacy presents a list of articles now included in the pharmacopœia and requests the cooperation of British chemists in the compilation of statistics on the use of official substances.—Chem. & Drug. Lond., 1907, v. 71, p. 115.

The report of the committee on pharmacopœia is reprinted.—Canad. Druggist, Toronto, 1907, v. 19, pp. 43–51, 100–107.

Commenting on the suggestions made by the committee appointed by the American Medical Association to make suggestions for the improvement of the U. S. P., the editor says: "These observations might be applied to the Ph. Brit. in so far as concerns the production of a work that might become the guide, philosopher, and friend of the physician."—Pharm. J. Lond., 1907, v. 25, p. 197.

S. GERMAN.

Frerichs, G., offers a number of suggestions for the revision of the Ph. Germ.—Apoth. Ztg. Berl., 1907, v. 22, pp. 12–13, 192–194, 203–205, 228–229, 238.

Weichelt, W., discusses the Ph. Germ. expressed or accepted definitions for the several pharmaceutical preparations, suggests a number of additional classes and criticises some of the present groups.—Apoth. Ztg., Berl., 1907, v. 22, pp. 638–641, 650–652, 666–668.

The editor presents, without additional comment, a compilation of suggestions, for the coming Ph. Germ. V that have been furnished by apothecaries, physicians, and veterinarians in answer to the request by the president of the Imperial Health Office, which department is intrusted with the compilation, revision, and publication of the Ph. Germ.—*Ibid.*, v. 22, pp. 1037–1040, 1051–1054, 1062–1065.

Frerichs, G., calls attention to the difference between the Ph. Germ. descriptions of vegetable drugs and of chemicals and points out that

the present pharmacopœia requires that the apothecary have a much greater proficiency in botany than in chemistry. He also suggests that the chemistry of the Ph. Germ. be couched in more technical language. Referring to alkaloidal determinations he points out that the Ph. Germ. IV in its assay methods for drugs and their preparations, does not include a statement as to the resulting percentage of alkaloid and suggests that this be corrected.—*Ibid.*, v. 22, pp. 12-13.

9. FRENCH.

According to the strict letter of French law, all those substances which are not included in the Codex, or the formulæ of which have not been approved by the Academy of Medicine, are classed and treated as "remèdes secrets." The commission of publication of the new Codex have very properly omitted certain drugs and preparations which have become more or less obsolete, and the question has arisen. What are these drugs now? They will not be in the Codex, so are they "remèdes secrets?" This question has been submitted to a medico-legal commission for an expression of opinion. This commission reported that the Codex was not so much a license for the sale of certain articles by pharmacists, but that it represented the minimum of such drugs as are required by law to be supplied at need. The successive editions of the work must be taken as a whole; an article once included in one edition did not cease to be an accepted official remedy merely because it might happen to be deleted from any subsequent edition. In fact, the law expressly states that it is obligatory on pharmacists to prepare and stock preparations which have been published and which may be published in future, thus making the act both retrospective and prospective.—*Pharm. J. Lond.*, 1907, v. 24, p. 761.

10. DUTCH.

The chemical articles included in the Ph. Ndl. are reviewed and criticised at some length in a serial article by one of the editors.—*Pharm. Weekbl.*, 1907, v. 44, p. 18, ff.

Schoorl. N., discusses the arsenic test now official in the Ph. Ndl. IV.—*Ibid.*, v. 44, pp. 57-67.

The same discusses the tests for purity.—*Ibid.*, v. 44, pp. 121-137.

Suijver. J. F., discusses the examination of fixed oils and of mineral oil.—*Ibid.*, v. 44, pp. 341-343.

Wester, D. H., presents some observations on the medicaments included in the Ph. Ndl. IV.—*Ibid.*, v. 44, pp. 710-715.

Schoepp reviews the Ph. Ndl. IV at some length and calls attention to many of the details in which this pharmacopœia excels.—*Apoth. Ztg. Berl.*, 1907, v. 22, pp. 21-22, 33-35, 45, 54-55.

11. SPANISH.

Vosz, Arnold, reviews the Ph. Hisp. VII, and points out that compared with the Ph. Hisp. VI this is a thoroughly modern book.—Apoth. Ztg. Berl., 1907, v. 22, pp. 79–80, 90–92.

12. ITALIAN.

An abstract points out that the Ph. Ital. is at present undergoing revision, and that the list of articles which must be in stock in Italian pharmacies will be increased by over 100 additions. It is also pointed out that the tests will be increased in number and brought up to date, and that the polariscope will probably be added for the examination of essential oils. The majority of the committee are against the introduction of fluid extracts into the pharmacopœia. A number of other changes are also discussed.—Chem. & Drug., Lond., 1907, v. 70, p. 911.

3. COMMENTS ON U. S. P. VIII RELATIVE TO THE REQUIREMENTS OF THE BRUSSELS CONFERENCE.

Whelpley, H. M., in discussing the changes that were embodied in the U. S. P. VIII, points out that the change in the strength of potent tinctures was not the result of a whim on the part of the committee on revision. It was an effort to meet the regulations adopted by an international congress, held at Brussels in 1902, which met to consider the adoption of a uniform standard of strength for those potent medicines which are used in practically all civilized countries. Our Pharmacopœia is the first one to be revised since that convention, and the first one to adopt the standards which, no doubt, will be followed by other pharmacopœias when their works are revised. This will enable a person to obtain uniform tincture of aconite, no matter whether the prescription is compounded in St. Louis, London, Paris, Berlin, or any other country represented at the Brussels Conference.—Proc. Arkansas Pharm. Ass., 1907, p. 65.

Greenish, Henry G., points out that the conspicuous failure on the part of the United States to bring its formulas into harmony with those of the agreement, as shown by a comparative review that he has made, is the more remarkable when considered in conjunction with the statement in the preface that “the recommendations of this (the international) conference have been adopted by the committee of revision, except in one or two instances.” He presents the following table showing approximately the extent to which compliance with the requirements of the international agreement obtains in the pharmacopœias examined.

	Complete agreement.	Approximate agreement.	Want of agreement.
	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
Spanish.....	96.50	.....	3.50
Belgian.....	87.50	6.25	6.25
Dutch.....	81.25	6.25	12.50
Austrian.....	77.00	11.00	11.00
United States.....	26.66	30.00	43.33

That such compliance has not been attained without, in some cases, very considerable alteration, is indicated by the fact that the Ph. Belg. has been compelled to modify 80 per cent of its formulas, the Ph. Hisp. 75 per cent, and the Ph. Ndl. 39 per cent; on the other hand, the Ph. Austr. and U. S. P. have altered only about 6 per cent.—Pharm. J., Lond., 1907, v. 24, p. 833.

An editorial outlines the history of the U. S. P. from its origin, in 1817, to the present time, also includes list of changes and corrections in the U. S. P. VIII.—Meyer Bros. Drug., St. Louis, 1907, v. 28, p. 90.

Thrush, M. Clayton, reviews the history of the U. S. P. and the history of the several decennial conventions.—Drug. Circ., N. Y., 1907, v. 51, pp. 43-52.

SPANISH EDITION OF THE U. S. P. VIII.

Díaz, Guillermo, points out some of the reasons why he and other Cuban pharmacists were desirous of having the U. S. P. translated into Spanish.—Proc. Am. Pharm. Ass., 1907, v. 55, pp. 7-8.

An editorial points out that the U. S. P. in its Spanish translation will undoubtedly do much to further the progress of American ideas in the countries to the south of us, and trade in American pharmaceuticals is sure to benefit by the development of improved relations.—Am. Druggist, N. Y., 1907, v. 51, p. 132.

Remington, Joseph P., reports that 250 typewritten pages of the Spanish translation of the Pharmacopœia had been prepared, and that the work is being actively continued.—Meyer Bros. Drug., St. Louis, 1907, v. 28, p. 37.

III. COMMENTS ON OFFICIAL ARTICLES.

ACACIA.

Nelson, Burt E., discusses the nature and origin of acacia and describes the appearance of its powder under the microscope.—Merck's Report, N. Y., 1907, v. 16, p. 192.

An abstract points out that gum arabic, which forms one of the more important minor exports of Egypt, is really the sap from a special kind of tree, whole forests of which are found in the Kordofan Province, and also near Dedid, in the White Nile Province. The confectionery trade is perhaps the principal purchaser of gum arabic, though a very large number of other industries, e. g., chemical works, printing and dyeing mills, letterpress printers, and so on, are interested in this product of the Sudan.—Oil, Paint and Drug Reporter, New York, 1907, v. 72, July 1, p. 52.

An abstract (from *Moniteur Officiel du Commerce*) reviews the trade of Egypt with acacia in the year 1906 as compared with 1905, giving the chief countries to which the drug was exported, the quantity, and value.—Chem. Ind., Berl., 1907, v. 30, p. 319.

An unsigned abstract from the report of the Wellcome Research Laboratories at the Gordon Memorial College, Khartoum, describes Sudan "gum arabic," the source of the gum, and the determination of viscosity of gum solutions.—Merck's Report, N. Y., 1907, v. 16, pp. 43-45, 69-70.

Boucher, V., presents a comprehensive study on the chemical constitution of gums.—Bull. de Pharm. du Sud-Est., 1907, v. 12, pp. 73-84, 191-233.

Vamvakas, Jean, says that Nessler's reagent gives in the cold with a solution of gum arabic concentrated to 30 per cent, and after agitation, a turbid emulsion of a dirty gray color, and forms, after a time, a gray precipitate at the bottom of the vessel. Operating at a boiling temperature, the gray precipitate is formed immediately; but the precipitate is produced only in very minute quantity if tartaric acid be added to the solution of gum before adding the Nessler reagent and bringing it to the boiling point.—Ann. de chim. analyt., Par., 1907, v. 12, p. 13.

Philipp Röder (Jahresbericht, Wien, 1907, p. 77) reports on three samples of acacia, which were found to contain 2.84, 2.43, and 4.18

per cent of ash. He points out that the Ph. Austr. VIII limitation of 3 per cent of ash is low and that the Ph. Germ. IV of 5 per cent is somewhat high.

Reyer, Emil, discusses mucilage of acacia, its various shortcomings, and the attempts that have been made to correct them. He asserts that in his experiments lime water has not proved to be a satisfactory preservative.—Merck's Report, N. Y., 1907, v. 16, p. 164.

Mittelbach, Wm., asserts that the use of lime water in making the mucilage of acacia is not new. This has been suggested by practical men years ago, and the committee on revision did right in adopting it.—Proc. Missouri Pharm. Ass., 1907, p. 131.

Hommell, P. E., points out that while mucilage of acacia made with lime water does not show as much mold as the old formula, there is disagreeable lime water odor and some precipitation. He thinks the addition of lime water has not proved to be entirely satisfactory as a preservative.—Proc. New Jersey Pharm. Ass., 1907, p. 62.

Thomann, J., points out that the Ph. Helv. IV provides that mucilage of acacia be heated for half an hour on a water bath to destroy the oxydases present. This heating changes the properties of the mucilage somewhat, but does not impair its usefulness.—Schweiz. Wehnschr. f. Chem. u. Pharm. Zürich, 1907, v. 45, p. 748.

Pinchbeck, G., calls attention to the possibilities of preserving mucilage of acacia by sterilization. He adds that addition of antiseptics such as chloroform or benzoic acid are to be deprecated when a simple method of preservation such as the one he recommends is available.—Pharm. J. Lond., 1907, v. 25, p. 304.

Alcock, F. H., in discussing the preservation of mucilage of acacia asserts that there is something present in myrrh which acts as a wonderful antiseptic and preservative. He has found that mucilage made with residual myrrh from the tincture keeps better than official mucilage.—*Ibid.*, v. 25, p. 279.

Brown, J. F., recommends the use of benzoic acid for the preservation of mucilage of acacia. He adds 4 grains to the amount of gum prescribed by the Ph. Brit. and asserts that the resulting mucilage keeps perfectly without moulding or souring.—*Ibid.*, v. 25, p. 234.

A book review of the B. P. C. points out that formaldehyde is recommended as a preservative for mucilage of acacia.

The experience of some workers with formaldehyde as a preservative of vegetable preparations has been far from satisfactory. Assuming that the statement is quite correct it is probably the best substance that could be employed for the purpose, as there are objections to such substances as cinnamon water and benzoic acid, both of which have recently been advocated.—*Ibid.*, v. 25, p. 465.

Manseau, M., discusses the use of acacia as a pill excipient and controverts the claims made by M. Carles that acacia tends to make pills hard, insoluble, and inert, and tends to decompose readily changed constituents.—Bull. Soc. de pharm. de Bordeaux, 1907, v. 47, pp. 236–238.

Beringer, George M., calls attention to the continuance of the Ph. Germ. title, *Pluvius gummosus* as a synonym for compound powder of acacia N. F. despite the dissimilarity of the two preparations.—Am. J. Pharm., Phila., 1907, v. 79, p. 364.

ACETANILIDUM.

Schlotterbeck, J. O., outlines the production of acetanilide and its method of purification.—Bull. Pharm., 1907, v. 21, p. 331.

Schweitzer, Hugo, outlines the history of the introduction of acetanilide as a therapeutic agent and asserts that the accidental discovery of the therapeutic properties of acetanilide leads to the introduction of a number of related compounds, such as phenacetin, lactophenin, phenocoll, and aspirin.—D.-A. Apoth.-Ztg., N. Y., 1907, v. 28, p. 25.

Seidell, Atherton, contributes a paper on the solubility of acetanilide. In a second paper he describes a rapid method for the quantitative determination of acetanilide in headache powders.—J. Am. Chem. Soc. 1907, v. 29, pp. 1088–1091, 1091–1095.

Turner and Vanderkleed discuss the estimation of acetanilide and phenacetin in complicated mixtures. For the former they recommend saponification of the acetanilide by means of an alkali; distillation of acetic acid from the resulting acetate, from an acid distillate and the titration of the distillate.—Am. J. Pharm., Phila., 1907, v. 79, pp. 151–156.

Lücker, Edward, believes that in view of the reliability of the indophenol reaction for identity of acetanilide the isonitril reaction may well be omitted from future editions of the Ph. Germ.—Apoth. Ztg. Berl., 1907, v. 22, p. 1045.

Blome, Walter H. (Com. on Adulterations) reports 40 samples examined; all satisfactory; one gave a yellow color when dissolved in sulphuric acid.—Proc. Michigan Pharm. Ass., 1907, p. 66.

Smith, Otis W., points out that the revision committee has been criticised in some quarters for including compound acetanilide powder, but so long as the public insists on consuming headache powders in such enormous quantities pharmacists may as well have an official formula for preparing the product. He concludes that the formula would have been improved by the addition of monobromated camphor.—Proc. Missouri Pharm. Ass., 1907, p. 136.

An editorial asserts that 200 tons of acetanilide are said to go into consumption in this country annually.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 292.

Wilbert, M. I., calls attention to the fact that mixtures containing acetanilide which, formerly were exploited as being definite chemical compounds, are now being marketed as mixtures. *Antikamnia*, formerly an acetanilide mixture, is being marketed as a mixture containing 350 grains of acetphenetidin in each ounce. *Ammonol* is said to be ammonium phenyl acetamid on one portion of its label and directly underneath is said to contain 240 grains of paracetylphenetidin in each ounce. *Phenalgin*, marketed as an ammoniated phenylacetamid, is labelled as containing 50 per cent of acetanilidum.—*Am. J. Pharm.*, Phila., 1907, v. 79, p. 131.

An unsigned article discusses the utility of acetanilide and the reported fatalities from the use of this drug.—*New Idea*, Detroit, 1907, v. 29, pp. 345-346.

The editor of the "Therapeutics" column gives a résumé of the actions of the various substances used in headache powders, including acetanilide, phenacetin, caffeine, and sodium bicarbonate and ammonium carbonate, with a plea for common sense in their use.—*J. Am. M. Ass.*, 1907, v. 49, p. 1689.

Kirk, C. D. R., after many trials uses 4-grain tablets composed of acetanilide 7 parts, soda bicarb., 2 parts, tartaric acid one-half part, with one-sixtieth grain of strychnine nitrate to each tablet. He orders these antifever tablets by the 10,000 and generally uses that amount throughout the year. He gives the tablets in all fevers, and regardless of fever when there are remissions or intermissions; one every two hours when there is fever, and every three hours when clear of fever. He thinks that in the doses usually prescribed, regardless of the strength of the heart's action, by the "regulars," acetanilide will make angels very often.—*Eclectic M. J.*, Cincin., 1907, v. 67, p. 34.

Additional references on the use and the toxicology of acetanilide will be found in the *Index Medicus* and the *J. Am. M. Ass.*

ACETONUM.

White, Edmund, discusses acetone, its physical properties, tests, and the trade varieties.—*Pharm. J.*, Lond., 1907, v. 24, p. 404.

Sy, Albert P., for the rapid estimation of acetone, has adapted the well-known method of Messinger, so that the burette readings give the number of grammes of acetone in 100 cc. (sometimes expressed as per cent) directly.—*J. Am. Chem. Soc.*, 1907, v. 29, p. 786.

Denigés, M. G., discusses the difficulty of determining acetone in the presence of thymol.—*Bull. Soc. de pharm. de Bordeaux*, 1907, v. 47, p. 195.

Porcher and Hervieux consider the reaction of Penzoldt, which they describe as the most characteristic.—*Répert. de pharm. Par.*, 1907, v. 19, p. 304.

Bacon and Freer discuss the action of sodium on acetone, report some experimental work, and conclude that the original description of sodium acetone, stating that the compound contained has 30.17 per cent of sodium, was correct.—*Philippine J. Sc.*, 1907, v. 2, A., pp. 67–68.

Coblentz, Virgil, discusses the detection of denaturized spirits in galenicals and outlines the following (Legal's) test, which is based on the presence of acetone in denatured alcohol: To about 5 cc. of the spirit add 1 cc. of a solution of sodium nitroprusside (1 to 100) made alkaline by the addition of a solution of sodium hydroxide; a yellowish red color is produced, which, after cautiously acidifying with acetic acid, changes to a violet. If acetone is absent a lemon-yellow color is produced through the addition of the nitroprusside solution, which, through acidulation with acetic acid, is completely decolorized.—*Merck's Report*, N. Y., 1907, v. 16, p. 68.

Babington, Fred W., discusses the detection of wood spirits in acetone; he determines the methyl alcohol by converting it into a volatile ester and titrating.—*J. Soc. Chem. Ind.*, 1907, v. 26, pp. 243–244.

Blome, Walter H. (Com. on Adulterations) reports 6 samples examined; 5 satisfactory, one had an alkaline reaction.—*Proc. Michigan Pharm. Ass.*, 1907, p. 66.

Patch, E. L., reports a sample of acetone acid in reaction. Not U. S. P.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 322.

ACETPHENETIDINUM.

Schlotterbeck, J. O., outlines the manufacture of phenacetin and describes the several steps that are required in the building up of this product.—*Bull. Pharm.*, 1907, v. 21, p. 331.

The Ph. Dan. VII gives phenacetinum as the official title for acetphenetidinum.

Good, J. M., asserts that the reason that the agency for the Bayer products quotes phenacetin at \$4 a pound and the same substance exactly under the name acetphenetidin at \$1.15 a pound is because they are loath to loosen their grip upon a monopoly. They still claim proprietorship in the name. There is good reason to believe that the ownership in the name expired with the patent, but the Committee of Revision did not care to contest the matter legally.—*Nat. Druggist*, St. Louis, 1907, v. 37, p. 63.

Turner and Vanderkleed outline a method for the determination of acetanilide and phenacetin in pharmaceutical mixtures.—*Am. J. Pharm.*, Phila., 1907, v. 79, pp. 151–156.

Repiton calls attention to the fact that both phenacetin and salophen contain the acetic nucleus, while aspirin is an acetic ether of salicylic acid. Heated on a porcelain capsule over a Bunsen burner these compounds may therefore be recognized by the odor of this acid given off. Phenacetin dissolves in water in the proportion of 1 to 1,500; aspirin, 1 to 100; while salophen has an odor characteristic of essence of geranium, an odor of salol.—*Ann. de chim. analyt. Par.*, 1907, v. 12, p. 268.

Seidell, Atherton, contributes a paper on the solubility of acetphenetidin.—*J. Am. Chem. Soc.*, 1907, v. 29, pp. 1088–1091.

Blome, Walter H. (Com. on Adulterations), reports that only one sample out of many showed the slightest trace of the presence of acetanilide.—*Proc. Michigan Pharm. Ass.*, 1907, p. 66.

Dohme and Englehardt report examining one lot of acetphenetidin considerably adulterated with acetanilide.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 378.

Graham, Willard, examined a large number of samples, only one being of inferior quality.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 236.

Philipp Röder (*Jahresbericht*, Wien, 1907, p. 13) reports on three samples of acetphenetidin, one of which produced a brown color with concentrated sulphuric acid, and left a perceptible residue on incineration.

Kebler, Lyman F., points out that the deleterious effects of acetphenetidin and antipyrine have not been given proper publicity, and that the public has little knowledge of the meaning of the words acetphenetidin and antipyrine.—*J. Frankl. Inst. Phila.*, 1907, v. 163, p. 309.

Rodgers, C. W., thinks that when prescribed it would be safer to indicate in parentheses the name of Bayer, because that is the name of the concern that has been manufacturing this preparation for so long a time that they must understand its manufacture better than the casual druggist.—*Dental Cosmos*, Phila., 1907, v. 49, p. 847.

ACIDUM ACETICUM.

White, Edmund, gives the properties of and tests for pure acetic acid; also discusses the trade varieties of the acetic acid, and asserts that when an acid short of glacial strength is required the 80 per cent acid is convenient, as it is not liable to solidify in cold weather.—*Pharm. J. Lond.*, 1907, v. 24, p. 404.

Eberlein, L. (*Pure Products*, 3, 1907, No. 4, pp. 173–177), describes the manner in which pure cultures of acetic acid bacteria are used in vinegar making.—*Exp. Sta. Rec.*, 1906–7, v. 18, p. 1079.

Blome, Walter H. (Com. on Adulterations), examined 10 samples of dilute acetic acid varying from 2.76 to 6.73 per cent of absolute acetic acid. He suggests that dealers declare the strength of this acid on the label.—*Proc. Michigan Pharm. Ass.*, 1907, p. 66.

Caspari, Chas. E. (Com. on Adulterations), examined 32 samples—30 satisfactory, 2 weak in strength.—*Proc. Missouri Pharm. Ass.*, 1907, p. 142.

Gilmour, J. P., reports 6 out of 30 samples as not complying with Ph. Brit. requirements, average deficiency 3.12 per cent; the non-conforming samples said to be German.—*Year Book of Pharmacy*, London, 1907, pp. 446-455.

ACIDUM ACETICUM GLACIALE.

The inspectors of pharmacies found samples of glacial acetic acid containing as low as 60 per cent of acetic acid, and point out the need for controlling this preparation.—*Ann. de pharm. Louvain*, 1907, v. 13, p. 324.

van der Harst, J. C., found a sample of (glacial) acetic acid containing 93.7 per cent of absolute acid and not complying with the permanganate test.—*Pharm. Weekbl.*, 1907, v. 44, p. 1506.

Gilmour, J. P., reports 2 out of 10 samples not up to Ph. Brit. requirements; average deficiency 6.45 per cent.—*Year Book of Pharmacy*, Lond., 1907, pp. 446-455.

ACIDUM BENZOICUM.

Kwisda reviews several recent papers on the differentiation of the various kinds of benzoic acid, and points out that at the present time the presence of chlorine compounds is sufficient to differentiate between synthetic and the natural acid, though should it be possible to produce an absolute chlorine free synthetic benzoic acid some other method of differentiation must necessarily be developed.—*Ztschr. d. allg. österr. Apoth. Ver.*, Wien, 1907, v. 45, p. 339.

Dohme and Englehardt assert that the amount of substance taken for the chlorine test is too small, it should be increased to 1 gm. The manufacturers of synthetic benzoic acid are in a position to reduce the amount of chlorinated products to a minimum and with 0.5 gms. of substance taken, an adulteration of true benzoic acid can hardly be detected.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 378.

Cornimboeuf and Grosman discuss the differentiation of the diverse pharmaceutic benzoic acids.—*Répert. de pharm. Par.*, 1907, v. 19, pp. 9, 57, 151-153.

See also Ruff, E., (*J. de pharm. d'Anvers*, 15, II, 07, from *Pharm. Zentralh.*) who uses the Beilstein reaction with copper oxide.—*Ibid.*, v. 19, p. 177.

Lehmann, K. B., (*Chem.-Ztg.*, 32, 949-952, Sept. 30) reviews the literature relating to the use of benzoic acid for the preservation of foods, and lays down several fundamental principles regarding this subject.—*Chem. Abstr. Am. Chem. Soc.*, 1908, v. 2, No. 24, p. 3373.

Scoville, Wilbur L., discusses the possibility of mistaking cinnamic for benzoic acid in food analysis and points out that cinnamic acid produced by oxidation of oil of cassia, used as a condiment, may readily be mistaken for added benzoic acid.—*Am. J. Pharm., Phila.*, 1907, v. 79, pp. 547-551.

Scheringa, K., discusses the separation of benzoic and cinnamic acids, and outlines a method which depends on the lesser solubility of salts of cinnamic acid, particularly calcium salts, and the comparative stability of cinnamic acid, in the presence of potassium permanganate in the cold.—*Pharm. Weekbl.*, 1907, v. 44, pp. 984-986.

Bigelow and Howard (*The Caterer*) outline a method for the detection of benzoic acid used as a preservative. The sample is to be extracted with chloroform. The chloroform is then evaporated on a water bath and the resulting benzoic acid crystals can readily be recognized by the unmistakable odor.—*Mdl. Drug. Columbus*, 1906-7, v. 8, p. 493.

Béguin, Ed., presents an abstract (from *Répertoire de pharmacie*, Jan. 1907, p. 9), which outlines a test for differentiating between the several forms of benzoic acid used in pharmacy.—*Schweiz. Wehnschr. f. Chem. u. Pharm. Zürich*, 1907, v. 45, p. 112.

Goldschmiedt, Guido, reports a study of a product occurring in the technical production of benzoic acid from coal tar. This product he has determined as 4-oxyisophthalic acid.—*Monatsh. f. Chemie. Wien*, 1907, v. 28, pp. 1091-1097.

Troxell, H. L., (*Com. on Adulterations*) reports true benzoic acid as being sometimes adulterated with synthetic benzoic acid, which, however, can easily be detected by the test for chlorinated products.—*Proc. Maryland Pharm. Ass.*, 1907, p. 85.

Patch, E. L., examined 5 lots: 1 contained a notable amount of a chlorine compound.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 322.

ACIDUM BORICUM.

Frank, A., describes the production of boric acid in Tuscany.—*Ztschr. f. ang. Chem.*, 1907, v. 20, pp. 258-262.

An abstract outlines the history of boric acid and describes its occurrence in Tuscany.—*Nat. Druggist, St. Louis*, 1907, v. 37, p. 388.

Winkler, John, discusses some factors in boric acid manufacture.—*J. Am. Chem. Soc.*, 1907, v. 29, pp. 1366-1371.

Gehe & Co. (*Handels-Bericht*, 1907, p. 51) discuss the production of boric acid and borax and give the amount of crude and purified products imported into Germany during the years 1904 to 1906.

Kline and Graham point out that commercial boric acid is of U. S. P. strength and purity for all practical purposes, but that it is liable to contain a very diminutive amount of such impurities as iron and aluminum, chlorides and sulphates.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 83.

Barthe, M. L., discusses the iodometric determination of boric acid.—*Bull. de la Soc. de Pharm. de Bordeaux.*, 1907, v. 47, pp. 33–36.

Frerichs, G., suggests that curcumin paper gives a much more satisfactory reaction with boric acid than curcuma paper.—*Apoth. Ztg. Berl.*, 1907, v. 22, p. 193.

Bigelow and Howard (The Caterer) outline a method for the detection of boric acid and sodium borate. The sample is treated with water and the boric acid liberated by means of hydrochloric acid. The resulting solution is then tested with turmeric paper.—*Mdl. Drug.*, Columbus, 1906–7, v. 8, p. 493.

Manning and Lang discuss the estimation of boric acid and borates in food stuffs and commercial articles.—*J. Soc. Chem. Ind.*, Lond., 1907, v. 26, pp. 803–804.

Alcock, F. H., outlines a method for the detection of boric acid in milk.—*Chem. & Drug. Lond.*, 1907, v. 70, p. 136.

Dohme and Englehardt report a large lot of boric acid containing more than the allowed amount of calcium and iron, and call attention to the fact that when boric acid is moistened and mixed with a certain green aniline color it bleaches the coloring matter on drying, but on wetting again the green color appears. They are unable to identify the substance producing this effect.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, pp. 378–379.

Troxell, H. L., (Com. on Adulterations) found two lots of boric acid to contain more than the allowed amount of calcium and iron in addition to sulphates.—*Proc. Maryland Pharm. Ass.*, 1907, p. 85.

Blome, Walter H., (Com. on Adulterations) reports on 13 samples of boric acid; solubility in water and alcohol varies; one contained traces of sulphate and chloride and another of sulphate only.—*Proc. Michigan Pharm. Ass.*, 1907, p. 67.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, pp. 11–12) found the usual impurities in the commercial varieties to be lead, copper, arsenium, iron, and sulphates. They detected as much as 1 grain of lead per pound in one sample, others containing one-half grain and under. Several samples showed, in their hands, the presence of 5 and 7 parts of arsenium per million, and they are informed that much worse is on the market. They state that the Ph. Japon makes a move in the right direction in defining to some extent, limits for the less harmful impurities in articles of this kind.

Philipp Röder (*Jahresbericht*, Wien, 1907, p. 16) reports examining 18 samples of boric acid, of which only 6 complied with the requirements of the pharmacopœia. The remaining preparations contained chlorine compounds, sulphuric acid, and one sample even contained nitric acid and heavy metals.

The editor of the "Medico-Legal" column quotes the *Western Morning News* to the effect that a coroner's jury had decided that a woman whose death they were considering had died as the result of boric acid, taken as an abortifacient.—*Brit. M. J.*, 1907, v. 2, p. 1695.

A communication from Pacific Coast Borax Company denies that boric acid has any harmful effects, and asserts that if we are to condemn substances because they are deleterious to the human system in excessively large doses everything in existence would have to be condemned.—*Pharm. Era.*, N. Y., 1907, v. 37, pp. 513-514.

Allan, J., (*Brit. J. of Children's Dis.*, Lond., Oct.) states that some persons are extremely susceptible to the action of boric acid, and in such persons it produces gastrointestinal disturbances, diarrhea, and vomiting, and sometimes a rash.—*J. Am. M. Ass.*, 1907, v. 49, p. 1958.

Wiley, H. W., gives a résumé of his experiments on the excretion of boric acid from the human body.—*Journ. Biol. Chem.*, N. Y., 1907, v. 3, pp. 11-19.

Manwaring and Ruh, in a report on the effect of certain surgical antiseptics and therapeutic agents on phagocytosis, conclude that boric acid in concentration less than $1\frac{1}{2}$ per cent causes a transient stimulation in phagocytosis, followed by a depression. As the concentration increases above $1\frac{1}{2}$ per cent, there is a rapid fall in phagocytic power, phagocytosis apparently completely ceasing soon after the concentration reaches 2 per cent.—*J. Expr. M.*, N. Y., 1907, v. 9, pp. 473-486.

Additional references on the use of boric acid will be found in the *Index Medicus* and the *J. Am. M. Ass.*

ACIDUM CITRICUM.

The curator of the botanical station at Dominica raises the interesting question whether the world's supply of citric acid is all grown within areas dominated by active volcanoes as Sicily, parts of Italy, Montserrat, and Dominica. "Is this," he asks, "merely a coincidence or is it the result of long experience proving that such localities are best suited for the growth of lime and lemon trees?"—*Pharm. J. Lond.*, 1907, v. 25, p. 393.

de Préaudet, G., discusses the production of citric acid in Dominique, the method adopted in producing the citrate of lime, the amount

of citric acid in the compound, and its destination.—*J. d'Agric. trop. Par.*, 1907, v. 7, p. 60.

An editorial, in discussing the production of citric acid in the Seychelles, points out that the Imperial Institute has reported very favorably on a sample of citrate of lime prepared in the island of Silhouette, which yielded 66.89 per cent of citric acid. This result has led to the erection of the necessary machinery for the production of the acid on a large scale.—*Chem. & Drug.*, Lond., 1907, v. 70, p. 936.

Gehe & Co. (*Handels-Bericht*, 1907, pp. 52–53) discuss the economic conditions prevailing in the market for citric acid, and point out that the export of the crude product from Messina has decreased from 5,808 barrels in 1903–4 to 5,735 barrels in 1904–5.

Mitchell, Edward, asserts that citric acid is one of the most troublesome items; that supplied by the manufacturers is usually pure, so far as U. S. P. requirements go, but is often unsatisfactory from physical tests. Crystallization imperfect and color a little off.—*Proc. Arkansas Pharm. Ass.*, 1907, p. 90.

White, Edmund, describes citric acid, enumerates the changes to which citric acid used as a reagent should correspond, and calls attention to some of the trade varieties.—*Pharm. J. Lond.*, 1907, v. 25, p. 747.

An abstract outlines a modification of the Ph. Germ. test for tartaric acid and sugar in citric acid.—*Am. Druggist*, N. Y., 1907, v. 50, p. 136.

Caspari, Chas. E., (Com. on Adulterations) examined 12 samples: 10 satisfactory, 2 contained metallic impurities.—*Proc. Missouri Pharm. Ass.*, 1907, p. 144.

Patch, E. L., examined 22 lots, 99 to 100 per cent pure. Trace of sulphate and iron in three lots.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 322.

Blome, Walter H., (Com. on Adulterations) reports that many samples of citric acid contain either sulphuric acid, tartaric acid, or iron.—*Proc. Michigan Pharm. Ass.*, 1907, p. 68.

Bachman, Gustav, (Com. on Adulterations) reports citric acid which was found to be C. P. according to the U. S. P. requirements.—*Proc. Minnesota Pharm. Ass.*, 1907, p. 41.

Evans Sons Lescher and Webb (*Analytical Notes*, 1907, 1908, p. 17) report the average amount of lead found in citric acid to be 0.0007 per cent, and only on three occasions did it reach their limit of 0.002 per cent. The quantity of arsenic was proved in every case to be below one part per million. Four Samples left weighable amounts of mineral matter of 0.07, 0.08, 0.07, and 0.12 per cent.

Philipp Röder, Wien, reports that of eight samples of citric acid examined two contained heavy metals and two sulphuric acid and

iron. The test for absence of tartaric acid and sugar, heating for one hour with concentrated sulphuric acid, is best carried out at from 80 to 85° C.; a higher temperature is to be avoided.—Pharm. Post, Wien, 1907, v. 40, p. 323.

Robertson, Illmen, and Duncan present some observations on the influence of citric acid on the coagulation of the blood, and conclude that they have been able to show that citric acid prolongs the coagulation time, and it seemed, even when the difference in time before and after its use was not a very material one, that the viscosity of the blood was lessened.—Tr. Am. M. Ass. Sec., Pharm. and Therap., 1907, pp. 51-77.

ACIDUM HYDRIODICUM DILUTUM.

White, Edmund, describes hydriodic acid, gives tests for phosphates, chlorides, and bromides, and describes the trade varieties.—Pharm. J. Lond., 1907, v. 25, p. 815.

Bachman, Gustav, (Com. on Adulterations) reports syrup of hydriodic acid ranging from 0.83 per cent to 0.54 per cent, instead of 1 per cent, as required by the U. S. P.—Proc. Minnesota Pharm. Ass., 1907, p. 41.

ACIDUM HYDROCHLORICUM.

Denssen, Ernst, (Z. anal. Chem., 46, 320-323, 1907) describes a method for the qualitative and quantitative determination of sulphuric acid in hydrochloric acid based upon the fact that sulphates may be reduced to sulphides even in the presence of fluorides.—Chem. Abstr. Am. Chem. Soc., 1908, v. 2, p. 243.

Philipp Röder (Jahresbericht Wien, 1907, p. 17), reports that of four samples of hydrochloric acid examined one contained considerable iron.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 24) have noticed many samples of the "commercially pure" acid which contain arsenium in excess of the stringent limit (i. e., less than three-tenths of a part per million) of Messrs. Dunstan and Robinson. One part per million was found on several occasions.

Blome, Walter H., (Com. on Adulteration) reports on two samples of dilute hydrochloric acid—11.72 and 7.62 per cent of absolute acid, respectively.—Proc. Michigan Pharm. Ass., 1907, p. 68.

Feldman, S. H., examined ten samples of diluted hydrochloric acid which varied from 9.5 to 12.3 per cent of HCl.—Am. J. Pharm., Phila., 1907, v. 79, p. 367.

Tixier, Léon, presents some interesting and suggestive results of his study of experimental anemias consecutive to pyloric ulcerations determined by hydrochloric acid.—Compt. rend. Soc. de biol., Par., 1907, v. 62, pp. 1041-1042, 1113-1114.

Additional references on the use of hydrochloric acid will be found in the Index Medicus and the J. Am. M. Ass.

ACIDUM HYDROCYANICUM DILUTUM

Greenish, Henry G., points out that the international agreement for diluted hydrocyanic acid requires 2 per cent. All pharmacopœias agree.—Pharm. J., Lond., 1907, v. 24, p. 832.

An editorial points out that in the protocol of the international convention for the unification of the official formulas for potent medicaments the strength of dilute hydrocyanic acid, which was originally given as 2 per cent, has been altered to 3 per cent.—*Ibid.*, v. 24, p. 101.

Eichinger, A., reviews the observations that have been made regarding the occurrence of hydrocyanic acid yielding glucosides in nature.—Pharm. Ztg. Berl., 1907, v. 52, pp. 146–147.

Hérissey, H., reports a study of prulaurasin, the hydrocyanic acid yielding glucoside of the leaves of *Prunus lauro-cerasus*.—Arch. d. Pharm., 1907, v. 245, pp. 463–468.

Also discusses the hydrocyanic acid yielding glucoside of the seeds of *Eriobotrya japonica*.—*Ibid.*, v. 245, pp. 469–474.

Bourquelot and Hérissey discuss the isomery of the hydrocyanic acid yielding glucosides, sambunigrin, and prulaurasin.—*Ibid.*, v. 245, pp. 474–480.

Hérissey, H., discusses the isolation of prulaurasin by means of the action of a soluble ferment on isoamygdalin.—*Ibid.*, v. 245, pp. 638–640.

Dunstan and Henry (Ann. Chim. et Phys., 8. ser., 10, 1907, Jan., pp. 118–125) summarize investigations relating to the occurrence of cyanogenetic glucosides in varieties of *Phaseolus lunatus*. The claim made by some investigators that in the Java beans and some other varieties of *P. lunatus* several distinct glucosides are to be found is, in their opinion, not well taken, as they believe that they are merely forms of phaseolunatin.—Exp. Sta. Rec., 1906–7, v. 18, pp. 728–729.

Pollacci, T. (Boll. Chim. Farm., 1907, 287), observes that the nature of the black substance which forms by the slow decomposition of prussic acid has been the subject of much conjecture. A product of somewhat similar appearance is formed by the decomposition which occurs with explosive violence, when the concentrated acid, 90 to 100 per cent, is stored in glass. This substance is light, black, and shows bright points resembling anthracite. It is considered to be a polymer of HCN. It contains no ammonia, as such. When slowly heated it constantly evolves hydrocyanic acid and ammonia until it is dissipated at about 500° C.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 272.

Gilmour, J. P., reports 13 out of 34 samples not in compliance with Ph. Brit. requirements; average deficiency, 12.5 per cent.—Year Book of Pharmacy, Lond., 1907, pp. 446–455.

ACIDUM HYPOPHOSPHOROSUM.

Murray, Benjamin L., thinks the specific gravity of hypophosphorous acid as given does not indicate its strength with sufficient accuracy to be retained in the Pharmacopœia.—*Merck's Report*, N. Y., 1907, v. 16, p. 249.

Steels, Bertram Dillon, discusses the velocity and mechanism of the reaction between iodine and hypophosphorous acid.—*J. Chem. Soc. Lond.*, 1907, v. 91, pp. 1641-1659.

Gane, E. H., reports that one maker's product invariably contains calcium oxalate. Six lots examined showed 48.04 per cent, 49.68 per cent, 50 per cent, 50 per cent, 50.3 per cent, 50.4 per cent of hypophosphorous acid.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 322.

Patch, E. L., examined four samples which contained calcium oxalate and one contained iron.—*Ibid.*, v. 55, p. 322.

Evans Sons Lescher and Webb (*Analytical Notes*, 1907, 1908, p. 25) found commercial samples to contain heavy traces of calcium.

ACIDUM LACTICUM.

Murray, Benjamin L., points out that the "purity rubric" for lactic acid requires not less than 75 per cent of acid and about 25 per cent of water; the specific gravity requires about 85 to 88 per cent acid and 12 to 15 per cent of water; while the assay again requires not less than 75 per cent acid. The specific gravity is out of harmony with the other requirements. The 75 per cent acid has a specific gravity about 1.175 at 25° C.—*Merck's Report*, N. Y., 1907, v. 16, p. 248.

Schäfer, V., discusses the advances that are being made in the chemistry of lactic acid and outlines the several processes now used for its production.—*Chem. Ztschr.*, 1907, v. 6, pp. 177-180.

Nussbaum discusses the wide distribution of lactic acid bacillus.—*Schweiz. Wchnschr. f. Chem. u. Pharm. Zürich*, 1907, v. 45, p. 617.

Heinemann (*J. Biol. Chem.* 2, 603-612, 1907) gives the result of his experiments to ascertain the discrepancies of the results of experiments of various workers on the kind of lactic acid formed in milk that has undergone natural souring.—*Chem. Abstr. Am. Chem. Soc.*, 1907, v. 1, p. 1882.

Jones, Basil, (*Austral J. Dent.*) discusses the use of lactic acid in root-canal treatment and for the removal of discolored dentin in deep-seated cavities.—*Dental Cosmos*, Phila., 1907, v. 49, p. 648.

Sellers, T. Blanchard, states that he has given the lactic acid treatment of digestive disorders a trial, and he believes it to be of less value than beta naphthol and salicylic acid and not to be compared with castor oil.—*Brit. M. J.*, 1907, v. 2, p. 526.

ACIDUM NITRICUM.

Waddell, John, discusses the origin of nitric acid, its occurrence in the Chile deposits and the modern methods of obtaining nitric acid. He asserts that the electrical process so far can not compete with the natural product.—*Oil, Paint and Drug Reporter*, New York, 1907, v. 72, July 1, p. 28F.

An editorial reviews the history of the electro-chemical fixation of nitrogen from its original suggestion at the Royal Society *soirée* in 1892, by Sir William Crookes to the present time.—*Pharm. J. Lond.*, 1907, v. 24, p. 76–77.

Russ, Franz, discusses the burning of air by means of high tension electric currents and the possibilities of commercial utilization.—*Oesterr. Chem. Ztg.*, Wien, 1907, v. 10, pp. 237–242.

An unsigned article describes and illustrates the Thomas Barry process for the manufacture of nitric acid from air.—*Sc. Am. Suppl.*, N. Y., v. 64, pp. 393–394.

Frankland, Percy F., presents a brief historical review of the discoveries and investigations which have laid the foundation for the processes at present in operation for fixing atmospheric nitrogen, discusses the utilization of atmospheric nitrogen for industrial purposes, and describes and figures some of the apparatus used.—*J. Soc. Chem. Ind.*, 1907, v. 26, pp. 175–180.

Birkeland, K., (*L'industria chimica*, 7, 45–48; see also editorial 41–45) gives a brief description of the electrical method devised by him and Eyde for the fixation of atmospheric nitrogen.—*Chem. Abstr. Am. Chem. Soc.*, 1907, v. 1, p. 1460.

Klason and Carlson report a series of experiments on the hydrolysis of alkali nitrates as a contribution on the constitution of nitric acid.—*Ber. d. deut. chem. Gesellsch.*, 1907, v. 40, III, pp. 4183–4191.

Collins, Stanley W., discusses the possible use of the "nitron" method for the estimation of nitric acid. He records a series of experiments showing the degree of accuracy which might be expected when working with solutions containing pure nitrates in known quantities.—*Analyst*, London, 1907, v. 32, pp. 349–351.

Litzendorff, Jakob, reports experiments on the use of nitron as a reagent for nitric acid and nitrates.—*Ztschr. f. ang. Chem.* Berl., 1907, v. 20, p. 2209.

Maderna and Coffetti (*Gazz. chim. ital.*, XXXVII, I. 595–598, 1907) discuss the determination of nitrous acid and its separation from nitric acid.—*Physikal. Chem. Centralb.*, 1907, v. 4, pp. 469–470.

Wagner, H. W. (*Pharm. Zentrallhalle*, 48, 1907, pp. 5–7), recommends a slight modification of Sprengler's phenol test for the detection of nitric and nitrous acids.—*Exp. Sta. Rec.*, 1907–8, v. 19, p. 109.

Gilmour, J. P., reports 8 out of 14 samples not in compliance with Ph. Brit. requirements: average deficiency 4.28 per cent.—Year Book of Pharmacy, Lond., 1907, pp. 446–455.

Raue, C. Sigmund, employs nitric acid for the deep irregular ulcers on the borders of the tongue, on the tonsils and the soft palate.—Tr. Am. Inst. Homœop., 1907, 63rd session, p. 528.

Uhle and MacKinney state that nitric acid employed judiciously gives the best results in the cauterization of chancreoid. The use of cocaine and of antiseptics, as well as a number of dusting powders, is also mentioned.—N. York M. J., 1907, v. 86, p. 111.

For additional references on the use of nitric acid, see J. Am. M. Ass.

ACIDUM OLEICUM.

Gunn and Harrison outline a method for the detection of iron in oleic acid by means of adrenine.—Pharm. J. Lond., 1907, v. 25, p. 181.

Gilmour, J. P., reports 2 out of 5 samples not up to Ph. Brit. requirements; palmitic and stearic acids present.—Year Book of Pharmacy, Lond., 1907, pp. 446–455.

Evans Sons Lescher and Webb (Analytical Notes, 1907–8, p. 34) find the specific gravity of oleic acid to range from 0.899 to 0.902. They assert that the limit of impurity given in the Ph. Brit. is rather too severe for commercial samples.

ACIDUM PHOSPHORICUM.

Richardson, W. D., makes a contribution to the determination of phosphoric acid volumetrically.—J. Am. Chem. Soc., 1907, p. 1314.

Jørgensen, Gunner, discusses the determination of phosphoric acid as phosphomolybdic acid and outlines the method followed by him. He concludes that a direct method as outlined and discussed by him would have a degree of accuracy of about 1:100, and while this may suffice for many purposes he does not believe it to be comparable with other available methods.—Ztschr. f. anal. Chem., 1907, v. 46, pp. 370–372.

Kline and Graham assert that almost all of the syrupy phosphoric acid on the market will deposit silica when diluted.—Proc. Pennsylvania Pharm. Ass., 1907, p. 82.

Patch, E. L., examined 11 lots which varied from 85.7 to 89.48 per cent. Three samples contained iron and sulphate.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 322.

Bachman, Gustav, (Com. on Adulterations) reports phosphoric acid ranging from 46.2 per cent to 31.6 per cent instead of 50 per cent, as required by the U. S. P.—Proc. Minnesota Pharm. Ass., 1907, p. 41.

Adams, E. O., points out that phosphoric acid is the remedy of choice in cases of functional indigestion accompanied with weakness of the memory.—Tr. Am. Inst. Homœop., 1907, v. 63rd session, p. 368.

Carpenter, W. B., presents a number of "phosphoric acid pictures" and points out the possible application of this remedy in the conditions indicated by these pictures.—*Ibid.*, 1907, pp. 276-280.

ACIDUM SALICYLICUM.

Philipp Röder (Jahresbericht, Wien, 1907, p. 18) reports that 2 samples of salicylic acid examined melted at from 158° to 159°.

Bigelow and Howard (The Caterer) outline methods for the detection of salicylic acid. They suggest the use of chloroform for washing out the mixture. The resulting salicylic acid is then tested with iron.—Mdl. Drug., Columbus, 1906-7, v. 8, p. 493.

Filippi, E., outlines a modification of the Lagrange method for the quantitative determination of salicylic acid which consists in adding an excess of bromine water, of known strength, and determining the excess of bromine with the aid of potassium iodide N/10 thiosulphate solution and titrating this back with N/10 iodine.—Jahresb., d. Pharm. Göttingen, 1907, v. 42, p. 228.

Evans Sons Lescher and Webb (Analytical Notes, 1907-8, p. 5) found the melting point of 8 samples (undried) of acetyl salicylic acid to range from 131° to 135° C. and of 3 other samples 121° to 124° C.

Dubois, W. L., discusses the use of carbon bisulphide in the estimation of salicylic acid in wine.—J. Am. Chem. Soc., 1907, v. 29, pp. 293-294.

Carletti, Ottorino, points out that commercial salicylic acid is frequently contaminated with other phenol derivatives and outlines a test which depends on the trituration of the suspected material with water, adding a few drops of a 2 per cent alcoholic solution of furfural and underlaying the mixture with strong sulphuric acid. The presence of phenol is indicated by a yellow ring which changes to deep blue.—Boll. chim. farm. Milano., 1907, v. 46, p. 421.

Blome, Walter H., (Com. on Adulterations) reports that one sample out of ten showed presence of a small amount of easily carbonizable substances.—Proc. Michigan Pharm. Ass., 1907, p. 70.

The inspectors of pharmacies assert that salicylic acid frequently contains benzophenol, which may be detected by heating the suspected sample to 70° C., at which temperature phenol is liberated.—Ann. de pharm., Louvain, 1907, v. 13, p. 324.

Davis, N. S., discusses the use of salicylic acid and of its several compounds in the treatment of rheumatism.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1907, p. 114.

Wiley, H. W., presents in abstract the general results of the investigations showing the effect of salicylic acid and salicylates upon digestion and health.—*Analyst*, London, 1907, v. 32, pp. 19–20.

The editor of the *Therapeutics* column discusses intestinal antiseptics and calls attention to the amounts necessary to maintain an antiseptic action. He states that while clinical experience has shown that some of the intestinal antiseptics are useful in certain diseased conditions, our knowledge does not afford the data for a precise comparison and determination of their relative value.—*J. Am. M. Ass.*, 1907, v. 48, p. 2159.

Stookey and Morris report experiments on the influence of salicylic acid upon uricolysis and an increased ability to destroy uric acid on the part of the kidney, muscle, spleen and liver taken from the dogs treated with sodium salicylate is noticeable.—*J. Expt. M. N. Y.*, 1907, v. 9, pp. 312–313.

ACIDUM STEARICUM.

Emerson, W. H., discusses the solubility of stearic acid in ethyl alcohol at zero in connection with the Hehner and Mitchell method for the determination of stearic acid.—*J. Am. Chem. Soc.*, 1907, v. 29, pp. 1750–1757.

Graham, Willard, examined three samples of stearic acid which ranged in melting point from 56.5° C. to 57° C., congealing point from 54° C. to 55° C., being normal in their physical appearance and undecomposed fat.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 326.

Evans Sons Lescher and Webb (*Analytical Notes*, 1907, 1908, p. 44), found 8 samples having acid values from 203 to 210 and melting points from 54° to 57° C.

ACIDUM SULPHURICUM.

An unsigned abstract (from *Moniteur Scientifique*, Nov., 1906), outlines and discusses the methods employed for the production of sulphuric acid in the United States.—*Schweiz. Wehnschr. f. Chem. u. Pharm. Zürich.*, 1907, v. 45, pp. 107–109.

Schweitzer, Hugo, briefly outlines the origin of the contact process for the manufacture of sulphuric acid.—*Am. Druggist*, N. Y., 1907, v. 50, p. 193.

Wöhler, Foss, and Plüddemann (*Chem. Ber.*, Bd. 39, p. 3538–3549, 1906), present a contribution to our knowledge of sulphuric acid production by the contact method.—*Physikal. Chem. Centralbl.*, 1907, v. 4, p. 45.

Zanner, A., reviews the production of sulphuric acid and the possible utilization of the lost heat.—*Ztschr. f. ang. Chem. Berl.*, 1907, v. 20, pp. 6–9.

Peterson, H., discusses the utilization of the lead chamber process for the production of sulphuric acid and outlines with diagrams his ideas of an intensive method for the production of sulphuric acid.—*Ibid.*, v. 20, pp. 1101–1105.

Raschig, F., discusses the chemistry of the lead chamber process for the production of sulphuric acid, and criticises the work of Lunge and Berl on the lead chamber process and the oxides of nitrogen.—*Ibid.*, v. 20, pp. 694–722.

Feigensohn, M., discusses the relative value of some of the modern innovations in the lead chamber process for sulphuric acid.—*Oesterr. Chem. Ztg.*, Wien, 1907, v. 10, pp. 177–181.

Inglis, J. K. II., presents some observations on the importance of nitre in the chamber process of the manufacture of sulphuric acid.—*J. Soc. Chem. Ind.*, Lond., 1907, v. 26, pp. 668–670.

Tower, O. F. (*ZS. f. anorg. Chem. Bd.*, 50, p. 382, 1906), discusses the solubility of nitric oxide and of air in sulphuric acid, reports a number of experiments, and concludes that the numbers obtained are so small that the solubility of these gases in sulphuric acid can cause no appreciable error in the determination of nitrates, nitrites, or the oxides of nitrogen by Lunge's method.—*Physikal. Chem. Centralbl.*, 1907, v. 4, p. 39.

Hart, Wm. B., presents some observations on the influence of physical condition and chemical composition of commercial lead on its durability for pan-concentration of sulphuric acid.—*J. Soc. Chem. Ind.*, Lond., 1907, v. 26, pp. 504–511.

Richardson, F. W., discusses the preparation of standard sulphuric acid. He asserts that a solution of barium hydroxide is well adapted for the quick and accurate standardization.—*J. Soc. Chem. Ind.*, Lond., 1907, v. 26, p. 78.

Friedheim and Nydegger believe that benzidin will prove to be a useful reagent for sulphuric acid in all cases where no other substance reacting with benzidin is present.—*Ztschr. f. ang. Chem. Berl.*, 1907, v. 20, pp. 9–22.

Bachman, Gustav. (Com. on Adulterations), reports 3 samples supposed to be U. S. P., which were analyzed with the following results: 1st, 19.54 per cent; 2nd, 17.3 per cent; and 3rd, 16.8 per cent.—*Proc. Minnesota Pharm. Ass.*, 1907, p. 41.

Gilmour, J. P., reports 4 out of 15 samples not up to Ph. Brit., traces of As.—*Year Book of Pharmacy*, Lond., 1907, pp. 446–455.

MaWhinney, Elgin (*Am. Dent. J.*), thinks aromatic sulphuric acid will often do as well as 25 per cent phenol-sulphonic acid in the treatment of pyorrhoea alveolaris.—*Dental Cosmos*, Phila., 1907, v. 49, p. 213.

Mason, Robert, discusses the use of aromatic sulphuric acid in toxemia. He asserts that it will arrest suppurative action, and, if given in time, will prevent suppurative action.—*Med. Rec.*, N. Y., 1907, v. 71, p. 448.

ACIDIUM SULPHUROSUM.

Baur, E., presents a contribution to our knowledge of sulphurous acid.—*Arb. a. d. k. Gsndhtsamte*, Berl., 1907, v. 26, pp. 269–296.

Baur and Kern discuss the electrolytic dissociation constants of sulphurous acid.—*Ibid.*, v. 26, pp. 297–300.

Gilmour, J. P., reports 6 out of 8 samples not up to Ph. Brit. requirements; average deficiency 21.87 per cent, hardly ever full strength unless fresh.—*Year Book of Pharmacy*, Lond., 1907, pp. 446–455.

Wiley, H. W., presents a report on the results of investigations made to determine the effects of sulphurous acid and sulphites on digestion and health.—*Bull. Bur. Chem.*, U. S. Dept. Agric., No. 84, Part 3, pp. 761–1040.

The general results of this investigation are presented as Circular No. 37, *Bur. Chem.*, U. S. Dept. Agriculture.

An editorial comments on the above.—*Lancet*, Lond., 1907, v. 173, p. 1700.

ACIDUM TANNICUM.

Mitchell, Edward, points out that his firm now sells four times as much of U. S. P. tannic acid as formerly, due, he thinks, to the fact that they now supply U. S. P. on all unspecified orders. Formerly, following trade usage, they sent commercial unless U. S. P. was named.—*Meyer Bros. Drug.*, St. Louis, 1907, v. 28, p. 307.

Brissemoret, A., makes a contribution to the study of the color reactions of tannoids. He points out that while the constitution of the tannins is still obscure, the several groups can be distinguished.—*Bull. d. sc. pharmacol. Par.*, 1907, v. 14, pp. 504–513.

Jean and Frabot find that formol in the presence of hydrochloric acid permits the classification and differentiation of tannin containing matters and serves for the estimation of catechuic tannins, either alone or mixed with other tannins. Their process is claimed to be constant as to results rapid and simple in operation, and applicable to the examination of extracts, juices, etc., containing tannin.—*Ann. de chim. analyt. Par.*, 1907, v. 12, pp. 49–52.

Procter and Bennet (*Jour. Soc. Chem. Indus.*, 26, 1907, No. 3, pp. 79–80) discuss the preparation of hide powders and give the details of a method for the determination of tannins, which, it is urged, should be adopted by the associations interested in this work.—*Exp. Sta.*, Rec., 1906–7, v. 18, p. 813.

An unsigned article (Collegium, 1907, No. 266, pp. 249-254) gives the final recommendations of the international commission appointed at the 1906 conference of the International Association of Leather Trades Chemists to investigate and make comparative tests of various methods of tannin analysis with a view of selecting the most satisfactory.—*Ibid.*, v. 19, p. 309.

Glücksman, C., presents a contribution to the knowledge of tannin in which he discusses the constitution of tannin, the acid number, the use of tannin as a tanning material and the theory of tanning.—*Pharm. Prax.* 1907, v. 6, pp. 113-122, 168-181, 201-208, 250-255.

Caspari, Chas. E., (com. on adulterations) examined 7 samples; none U. S. P.; 7 not completely soluble in water.—*Proc. Missouri Pharm. Ass.*, 1907, p. 143.

Troxell, H. L., (com. on adulterations) found several samples to be not perfectly soluble in water and the aqueous solution was of dark color, which shows imperfect purification.—*Proc. Maryland Pharm. Ass.*, 1907, p. 85.

Philipp Röder (Jahresbericht, Wien, 1907, p. 18) reports that of 5 samples of tannic acid examined, 1 was objected to because of imperfect solubility and dark color, and 1 because of an abnormally high water content—13.08 per cent. The water content of the remaining 3 samples varied from 7 to 9 per cent.

ACIDUM TARTARICUM.

Gehe & Co. (Handels-Bericht, 1907, pp. 55-56) discuss the production of tartaric acid and the export of this article from Germany.

Mestrezat discusses the oxidation of tartaric and malic acids and their manganimetric estimation.—*Ann. de chim. analyt., Par.*, 1907, v. 12, pp. 173-178.

Tagliavini, Achille, outlines a characteristic reaction for tartaric acid.—*Boll. chim. farm., Milano*, 1907, v. 46, pp. 493-495.

Alderson, F. H., referring to the "cream of tartar standard" adopted by traders and analysts, in which the limit of impurity in cream of tartar is fixed at amounts not exceeding 0.002 per cent of lead and 0.00014 per cent of arsenic, reports that five samples examined by the public analyst contained 0.56, 0.42, 0.14, 0.084, and 0.224 grains of lead per pound, respectively.—*Brit. Food J., Lond.*, 1907, v. 9, p. 113.

Bachman, Gustav, (com. on adulterations) reports tartaric acid which was found C. P. according to the U. S. P. requirements.—*Proc. Minnesota Pharm.*, 1907, p. 41.

Caspari, Chas. E., (com. on adulterations) examined 5 samples; 4 satisfactory, 1 contained metallic impurities.—*Proc. Missouri Pharm. Ass.*, 1907, p. 142.

Patch, E. L., examined 35 lots: 99.4 per cent to 99.8 per cent pure. Four contained traces of copper, 9 traces of iron and excess of sulphate.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 322.

Evans Sons Lescher and Webb (*Analytical Notes*, 1907, 1908, p. 45) examined about 130 samples of powder and crystal acid which, in the main, contained lead below 0.002 per cent and arsenium below 1 part per million. Several lots of foreign crystals gave lead up to 0.007 per cent and ash to 0.5 per cent. No pronounced arsenical contamination was detected.

The inspectors of pharmacies assert that tartaric acid frequently contains a trace of sulphuric acid or of lead.—*Ann. de pharm.*, Louvain, 1907, v. 13, p. 325.

Philipp Röder (*Jahresbericht*, Wien, 1907, p. 19) reports one sample of tartaric acid which contained considerable ash, some sulphuric acid and heavy metals.

An editorial discusses the contamination of tartaric acid by lead and arsenic. Trade samples of this compound are not infrequently reported by analysts to be unsatisfactory as regards lead and arsenic, and samples representing the produce of certain foreign countries, especially Spain and Italy, are more frequently objected to than others.—*Pharm. J. Lond.*, 1907, v. 24, pp. 551–552. (See also p. 554.)

Additional references on the testing of tartaric acid and its determination in wine and cider will be found in the Experiment Station Record and in Chemical Abstracts.

ACONITINA.

Béguin, Ed., discusses the observations made by Richard, Alvarez, and others on the properties and reactions of aconitine. Schweiz.—*Wchnschr. f. Chem. u. Pharm.*, Zürich, 1907, v. 45, pp. 143–145.

Gordin, H. M., reviews the literature on the progress in our knowledge of the chemistry of aconitine recorded during 1906.—*Pharm. Rev.*, Milwaukee, 1907, v. 25, p. 169.

Murray, Benjamin L., thinks the existence of "aconitine permanganate" is highly improbable.—*Merck's Report*, N. Y., 1907, v. 16, p. 249.

Patch, E. L., asserts that aconitine can be found answering all the U. S. P. tests except that with permanganate.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 322.

The inspectors of pharmacies point out that aconitine of commerce varies considerably in its action, and that it is unsafe to use this substance unless the physician is assured of its nature and origin.—*Ann. de pharm.*, Louvain, 1907, v. 13, p. 325.

ACONITUM.

Schneider, Albert, points out that *Aconitum napellus*, L., is grown extensively throughout California as a garden plant. He asserts that some has escaped from cultivation and that it could, no doubt, be very profitably grown in California.—Pacific Pharm., San Francisco, 1907–8, v. 1, p. 140.

Holm, Theo., describes and figures *Aconitum uncinatum* L., and gives a number of illustrations showing the structural characteristics of different portions of this plant.—Merek's Report, 1907, v. 16, pp. 65–67.

Puckner, W. A., reviews the literature on the estimation of aconite, published during the year 1906.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 306.

Kebler, Lyman F., points out that for aconite root the aliquot gravimetric results showed less variation than the U. S. P. method. The U. S. P. gave a maximum of 0.499 and a minimum of 0.335 per cent of alkaloids, and the aliquot part method a maximum of 0.612 and a minimum of 0.447.—Proc. Ass. Off. Agric. Chem. 1907, 24th Ann. Conv., p. 85 (Bull. Bur. Chem. U. S. Dept. Agric., 1908, No. 116).

Caesar and Loretz (Geschäfts. Ber., 1907, p. 111), recommend their assay method for belladonna root for aconite and point out that 1 cc. of N/10 acid is the equivalent of 0.0645 aconitine. The Ph. Germ. requires 0.516 per cent, Ph. Belg. 0.8 per cent, and the U. S. P. 0.5 per cent of aconitine.

Sayre, L. E., reports on 2 assays of aconite root which yielded 0.256 and 0.1972 gms. of aconitine in 100 cc., respectively.—Bull. Kansas Bd. Health, 1907, p. 46.

Hankey, W. T., reports aconite root uniformly below the U. S. P. standard. It should be 0.4 per cent instead of 0.5 per cent.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 322.

Gane, E. H., examined five lots varying from 0.51 to 0.6 per cent aconitine.—*Ibid.*, v. 55, p. 322.

Patch, E. L., examined 4 samples of whole aconite root varying from 0.46 per cent to 1.05 per cent; 2 ground containing 1.03 and 0.576 per cent, and 1 powdered containing 0.42 per cent.—*Ibid.*, v. 55, p. 322.

Blome, Walter H. (com. on adulterations), reports on one apparently old sample of powdered aconite root, which was very active physiologically.—Proc. Michigan Pharm. Ass., 1907, p. 66.

Vanderkleed, Charles E., reports 8 assays of aconite root of very good quality, ranging from 0.527 to 1.160 per cent of aconitine.—Proc. Pennsylvania Pharm. Ass., 1907, p. 87.

Caesar and Loretz (Geschäfts. Ber., 1907, p. 62), assert that aconite has been comparatively unsatisfactory, the alkaloid content of the better grades varying from 0.500 to 0.650 per cent.

Philipp Röder reports on one sample of aconite root which contained 0.46 per cent of alkaloid and 5.77 per cent of ash.—Pharm. Post, Wien, 1907, v. 40, p. 363.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 5), found a sample of aconite root of German origin to yield 0.17 per cent of aconitine, when assayed by the U. S. P. VIII process. About 0.4 per cent was obtained from the English samples examined.

Bührer, C., points out that while the international protocol requires 0.05 per cent of total alkaloid in tincture of aconite the Ph. Belg. and the U. S. P. require 0.045, while the Ph. Ndl. is content with 0.025 per cent. The Ph. Hisp. does not require an alkaloidal assay.—Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich, 1907, v. 45, p. 419.

Greenish, Henry G., also calls attention to this present variation.—Pharm. J., Lond., 1907, v. 24, p. 832.

Gane, E. H., points out the possible variations in the per cent content of alcohol in fluid extract of aconite depending on the amount of moisture and extractive contained in the drug. One sample contained 60.5 per cent by weight, or 68.17 per cent by volume, of absolute alcohol. Distilled, it gave 66.4 per cent by volume.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 318.

Caldwell, Paul, points out that 1 ounce of liniment of aconite and chloroform contains 1 dram of chloroform and 62 per cent of alcohol.—Drug. Circ., N. Y., 1907, v. 51, p. 204.

Wright, R., working on the determination of the alkaloids in chloroform of aconite, obtained results which prove without doubt the superiority of the "Codex" process. It takes out practically all the alkaloids quickly, and with very little waste of menstruum.—Year Book of Pharmacy, Lond., 1907, pp. 367-373. (See also Pharm. J., Lond., 1907, v. 25, pp. 66, 107.)

Felter discusses the therapeutics of aconite.—Eclectic M. J., 1907, v. 67, pp. 565-566, 626-627.

Rosenberger, A. S., points out that in one epidemic of influenza aconite was the remedy in the febrile stage and in some cases was all that was needed.—Tr. Am. Inst. Homœop., 1907, 63rd session, p. 418.

Kinyon, C. B., recommends aconite in cases of acute ovaritis with very severe pain; also for sudden suppression from cold (chill), fright, or anger.—*Ibid.*, 1907, 63rd session, p. 368.

Webb, Walter J., relates that a woman received by mistake four teaspoonfuls of a mixture of equal parts of tincture of aconite and tincture of belladonna in a space of 3 hours, but recovered, recovery being attributed to the antidotal action of the atropine for the aconite,

and to the fact that vomiting and purging took place.—N. York M. J., 1907, v. 85, p. 286.

ADEPS.

Lücker, Edward, asserts that American lard has a higher acid number than the German product and is readily recognized by its disagreeable odor.—Apoth. Ztg., Berl., 1907, v. 22, p. 1045.

Leys, A. (Comptes rend., 1907, 145, 199), outlines a method for the detection of foreign fats in lard. This depends on the fact that when fats containing solid glycerides are treated with glacial acetic acid and mercuric acetate the latter separate out on cooling practically free from adhering olein.—Pharm. J., Lond., 1907, v. 25, p. 315.

McPherson and Ruth contribute a paper on corn oil, its possible use as an adulterant in lard and its detection.—J. Am. Chem. Soc., 1907, v. 29, pp. 921–926.

Guillot, M. L., (J. pharm. chim., 6, 25, 430–432) examined one sample of lard, purchased for the French army, which was adulterated with water, sodium chloride, and cotton-seed oil. Its color was white; odorless; taste noticeably saline; consistency firm; reaction neutral to litmus; melts at 43° C.; when heated with sulphuric acid, 50°. It contained 11.9 per cent water, 0.584 per cent sodium chloride, 0.702 per cent ash (alkaline), and about 20 per cent cotton-seed oil.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 1629.

The inspectors of pharmacies report that lard is frequently adulterated with foreign fats, oils, or water and otherwise leaves much to be desired owing to frequent rancidity.—Ann. de pharm., Louvain, 1907, v. 13, p. 276.

Cohn, Alfred I., thinks that for making benzoinated lard it would be advisable to direct the mixing of coarsely powdered benzoin with an equal weight of clean gravel, enclosing the mixture in a muslin or cheese-cloth bag, and suspending the latter in the lard by a suitable contrivance. If the fabric for the bag is properly chosen there is no need for straining the finished product.—Proc. New York Pharm. Ass., 1907, p. 232.

Vanderkleed, Charles E., (com. on adulterations) points out that samples containing vanillin to give it a benzoinated odor were not so labeled until after the Food and Drugs Act went into effect.—Proc. Pennsylvania Pharm. Ass., 1907, p. 83.

ADEPS LANÆ.

Mitchell, Edward, asserts that a great proportion of the wool-fat offered is not U. S. P. The chlorides have not been eliminated.—Proc. Arkansas Pharm. Ass., 1907, p. 91.

Mossler, G., (*Ztschr. d. Allgem. Oesterr. Ap. Ver.* No. 1, 1907) points out that in testing wool-fat for acidity benzol is a better solvent than ether.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 823.

Klose, G., reports experiments on the quantitative determination of the solubility, at 45° C., of various medicaments in anhydrous lanolin.—*Arch. internat. de Pharmacod. et de Thérap.*, 1907, v. 17, pp. 459-463.

Blome, Walter H., (com. on adulterations) reports anhydrous wool-fat containing a trace of chloride.—*Proc. Michigan Pharm. Ass.*, 1907, p. 71.

Caspari, Chas. E., (com. on adulterations) examined 7 samples, 5 satisfactory; 2 contained traces of fatty acids and chloride.—*Proc. Missouri Pharm. Ass.*, 1907, p. 143.

Evans Sous Lescher and Webb (*Analytical Notes*, 1907, 1908, p. 30), found the iodine value of several samples of hydrous and anhydrous lanolin to lie between 18.6 and 26.2, eighteen hours being allowed for absorption. The saponification values ranged from 95.1 to 103 ash up to 0.1 per cent, and all were below the Ph. Brit. limit of acidity.

Levy, L. S., (*The American Perfumer*) discusses the use of lanolin, the need for having a refined preparation and some of the advantages that it offers as an ingredient in medicinal preparations, salves, and facial creams.—*Mdl. Drug.*, Columbus, 1906-7, v. 8, p. 300.

A number of references on the use of lanolin will be found in the *Index Medicus*.

ÆTHER.

Dohme and Englehardt believe it is to be regretted that the U.S.P. did not take up an "Æther pro narcosi" with more stringent requirements for its purity. They think the tests rigid enough for a good commercial product, but not for an anesthetic.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 378.

White, Edmund, gives the physical properties of ether, outlines a number of tests, and also describes "dry ether."—*Pharm. J. Lond.*, 1907, v. 25, p. 780.

An unsigned article describes and figures a modern ether factory according to the system devised by Eckelt.—*Pharm. Ztg.*, Berl., 1907, v. 52, pp. 169-170.

An editorial points out that the Government permission to employ since September 1, 1907, denatured alcohol in the manufacture of ether has materially reduced the cost of this important article without the slightest deterioration in quality.—*Pacific Pharm.*, San Francisco, 1907-8, v. 1, p. 333.

Fleischer and Frank point out that mixtures of alcohol and ether while miscible with either petroleum benzin or water are separated

when brought in contact with both benzin and water (the alcohol mixing with the water and the ether mixing with the bezin) and propose this as a ready means for determining the relative composition of mixtures of this kind.—Chem. Ztg., Cöthen, 1907, v. 31, p. 665.

Wester, H., (Pharm. Weekbl. 1907, 601) criticises the Ph. Ndl. IV acetone reaction and favors the following modification of Froehner's test, which will detect 0.028 per cent of acetone in ether. Three cc. of the ether is shaken up with 1 cc. of a 5 per cent solution of hydroxylamine hydrochloride. A small quantity, about 4 cc., of sodium hypochlorite solution is then added. In the presence of acetone a blue to bluish-green color is formed in the ether layer. Excess of hypochlorite solution should be avoided or it will destroy the color.—Pharm. Zentralh., 1907, v. 48, p. 620.

Wester, D. H., reports some additional observations on the influence of light on ether and mixtures of ether and alcohol that indicate that amber or brown glass has a retarding effect on the decomposition of ether.—Pharm. Weekbl., 1907, v. 44, p. 711.

Blome, Walter H., (com. on adulterations) reports that ordinary ether is usually slightly acid.—Proc. Michigan Pharm. Ass., 1907, p. 68.

The inspectors of pharmacies assert that samples of ether have been found to be very acid and to leave on evaporation an oily residue that is quite irritating.—Ann. de pharm., Louvain, 1907, v. 13, p. 327.

Philipp Röder (Jahresbericht, Wien, 1907, p. 19) reports one sample of ether having an acid reaction and being therefore objectionable.

Wieder, Henry S., discusses the administration of ether and points out a number of errors that are frequently made by the inexperienced anesthetist.—Therap. Gaz. Detroit, 1907, v. 31, pp. 844–848.

Nieloux, Maurice, contributes a study on the quantity of ether in the blood and in tissues.—Compt. rend. Soc. de biol., Par., 1907, v. 62, pp. 68–71, 160–163, 186–189. (See also Compt. rend. Acad. d. sc. Par., 1907, v. 144, pp. 341–344.)

Bailey, Francis W., and Brownlee, Alexander, each contributes a paper on the subject of the administration of ether by the open method.—Brit. M. J., 1907, v. 2, pp. 1823–1825.

Hausmann, W., calls attention to the use of ether as a drink and the possibility of habituating the animal organism to its use.—Ergeb. d. Physiol., 1907, v. 6, p. 94.

Additional references on the use of ether will be found in the Index Medicus and the J. Am. M. Ass.

ÆTHER ACETICUS.

Patch, E. L., reports the specific gravity of acetic ether at 25° C., 0.876. The standard 0.883 to 0.885. 25 cc. with 25 cc. of water just previously saturated with acetic ether separates 83.6 per cent. Standard, 90 per cent.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 325.

Philipp Röder (*Jahresbericht*, Wien, 1907, p. 20-) reports one sample of acetic acid boiling at from 65° to 78° C., in place of from 73° to 76° C., the limitations of the *Ph. Austr.* VIII.

ÆTHYLIS CARBAMAS.

The council on pharmacy and chemistry states that urethane is a name commonly applied to ethylis carbamas *U. S. P.*—*J. Am. M. Ass.*, 1907, v. 48, p. 227.

Ethyl Carbamate is official in the *Ph. Helv.* III as urethanum.

ÆTHYLIS CHLORIDUM.

Kailan, A., records a series of experiments on the formation of ethyl chloride with varying concentrations of alcohol and hydrochloric acid.—*Monatsh. f. Chemie*, Wien, 1907, v. 28, pp. 559–569.

Embley, E. H., reports on an experimental study of the pharmacology of ethyl chloride with the view of saving what appears to him to be a valuable anesthetic agent from coming under the suspicion of being unduly dangerous.—*Therap. Gaz.*, Detroit, 1907, v. 31, pp. 799–800.

Maas, Th. A., reviews the use of ethyl chloride as an anesthetic and concludes that it is quite as dangerous as chloroform and does not compare with nitrous oxide in cases where the latter can be used. A comprehensive bibliography is appended.—*Therap. Monatsh.*, Berl., 1907, v. 21, pp. 303–313.

Ingle, Henry B., in discussing anesthesia and methods producing it, points out that ethyl chloride, ethyl bromide, and nitrous oxide are all good for short anesthesia, or may be used preliminary to ether or chloroform.—*Therap. Gaz.*, Detroit, 1907, v. 31, pp. 240–243.

Camus and Nicloux discuss the estimation of ethyl chloride in the blood.—*Compt. rend Soc. de biol. Par.*, 1907, v. 63, pp. 689–691, 692–694, 792–795.

Additional references on the use of ethyl chloride will be found in the *Index Medicus* and the *J. Am. M. Ass.*

ALCOHOL.

Kuhl, Hugo, reviews the history and chemistry of alcoholic fermentation by means of yeast, describes the several forms of yeast, and records a series of experiments to determine the influence on fer-

mentation of various added substances.—Apoth. Ztg., Berl., 1907, v. 22, p. 729.

Arauner, Paul, presents a review of the uses of fermentation, the varieties of yeast, and the production of pure yeast cultures.—Pharm. Ztg., Berl., 1907, v. 52, pp. 660–662.

Slator, Arthur, discusses the existence of an intermediary product of alcoholic fermentation and concludes that if such a product exists it is even more readily changed than is glucose itself.—Ber. d. deutsch. chem. Gesellsch., Berl., 1907, v. 40, pp. 123–126.

Wiley and Schreiber discuss the production of synthetic alcohol and review some of the literature relating to the subject. They also describe and figure the apparatus used by the several experimenters.—Proc. Am. Philosoph. Soc., 1907, v. 46, pp. 117–123.

Rüdiger, H., discusses alcohol and the alcohol industry, presents a table giving the production of alcohol in different countries, and includes considerable information on the various methods and processes used in the production of alcohol.—Chem. Ind., Berl., 1907, v. 30, pp. 550–559, 580–582.

Wiley, H. W., (U. S. Dept. Agr. Bur. Chem. Bull., 102, 1906) gives a summary of his investigations in connection with inspection of imported food products. The investigation covered several different lines—the whiskies of Great Britain and Ireland, German wines, French wines and brandies, and canned goods.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 2622.

Gehe & Co. (Handels-Bericht, 1907, pp. 56–58) discuss the production and the consumption of alcohol in Germany and present a table showing the comparatively little variation either in the production or the consumption from the years 1900 to 1906, the total production averaging approximately 4,000,000 hektoliters.

Schnabel, C., asserts that the alcohol sold in Germany will not answer the silver-nitrate test and recommends that the requirements be adjusted to existing conditions.—Apoth. Ztg. Berl., 1907, v. 22, p. 1119.

An unsigned article illustrated presents a general consideration of the distillation and rectification of alcohol.—Sc. Am. Suppl. N. Y., 1907, v. 63, pp. 26071–26074, 26088–26091.

White, Edmund, describes the physical properties of ethyl alcohol, tests for an article suitable for use as a reagent and discusses the trade varieties of alcohol available in Great Britain.—Pharm. J. Lond., 1907, v. 24, p. 404.

Fleischer and Frank outline a rapid method for the determination of alcohol and ether in mixtures of the two. The method depends on the fact that a mixture of ether and alcohol is miscible with either water or petroleum benzin, but that in the presence of both of these

substances the ether tends to mix with the benzin while the alcohol mixes with the water.—Chem. Ztg., Cöthen., 1907, v. 31, p. 665.

A method for the analysis of distilled liquors as outlined by the Association of Official Agricultural Chemists includes the determination of absolute alcohol, ethereal salts, aldehydes, furfural, fusel oil, and methyl alcohol.—Bull. Bur. Chem. U. S. Dept. Agric., 1907, No. 107, pp. 95–101.

Coblentz, Virgil, asserts that the Leach-Lythgoe test in its present condition can not be depended on as a general one for the detection of methyl alcohol in mixtures.—Apothecary, Bost., 1907, v. 19, p. 62.

He describes a modification of the Sagle-Ferriere Cumiasse test, so that it can be performed more simply.—*Ibid.*, v. 19, p. 62.

Wolff, J., following up the work of Trillat on the production of polymerization products of formic aldehyde in the course of the combustion of sugar, finds it indispensable to redistill alcohols containing saccharose, invert sugar, or caramel before undertaking an analysis.—Ann. de chim. analyt. Par., 1907, v. 12, p. 470.

Wagner and Schultze discuss the estimation of ethyl alcohol by means of the Zeiss immersion refractometer; review some of the literature, and present their results in the form of a table in comparison with the figures given by Windisch.—Ztschr. f. anal. Chem. Wiesb., 1907, v. 46, pp. 508–514.

Kailan, Anton, reports experiments on the dehydration of alcohol by means of lime and calls attention to the loss of alcohol entailed by the use of an excess of the dehydrating agent.—Monatsh. f. Chem. Wien, 1907, v. 28, pp. 927–946.

Lyons, A. B., presents some new alcohol tables deduced for practical use from the table published by Mosley (J. Am. Chem. Soc., Oct., 1904). The tables give the volume per cent indicated by specific gravity at 15.6° C. and at 25° C. and the corrections for differences in specific gravity.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 353.

Troxell, H. L., (com. on adulterations) states that alcohol is sometimes shipped in insufficiently "pitched" barrels and consequently takes up tannic acid and its related products, which on addition of caustic alkali gives a yellow to brown color. Such an alcohol should not be used in alkaline preparations.—Proc. Maryland Pharm. Ass., 1907, p. 85.

Blome, Walter H., (com. on adulterations) reports that 7 samples left a weighable residue and contained aldehyde, tannin, and a slight trace of methyl alcohol. One sample contained carbonizable impurities in addition to the ones mentioned.—Proc. Michigan Pharm. Ass., 1907, p. 66.

Lythgoe, Hermann C., reports that of 59 samples of alcohol examined, 21 were watered. These samples varied in strength from 45 to

85 per cent of alcohol by volume.—Rep. Massachusetts Bd. Health, for 1907, 1908, p. 379.

Gilmour, J. P., found 45 samples to be of Ph. Brit. standard. Some contained appreciable quantity of aldehyde.—Year Book of Pharmacy, Lond., 1907, pp. 446-455.

Wetterstroem, Theo. D., points out that many liniments, hair tonics, and toilet waters, etc., contain 42 to 95 per cent wood alcohol.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 322.

Raubenheimer, Otto, suggests that the committee on revision prepare an official table of the alcohol content—that is, the percentage of *absolute* alcohol in the U. S. P. preparations.—Bull. Am. Pharm. Ass., Chicago, 1907, v. 2, p. 30.

Stevens, A. B., presents a tabulation of the approximate content of alcohol in fluid extracts and some other pharmacopœial preparations.—Pharm. Era, N. Y., 1907, v. 37, pp. 56, 130.

Caldwell, Paul, presents a list of the alcohol containing preparations of the National Formulary and the maximum percentage content of alcohol.—Drug. Circ., N. Y., 1907, v. 51, pp. 202-205.

Llloyd, J. Uri, (Medical Gleaner) calls attention to the increase of the alcohol strength of pharmaceutical preparations by precipitation and presents a tabulation of a number of preparations freshly assayed and assayed after the precipitation has occurred.—Drug Topics, N. Y., 1907, v. 22, p. 360.

An unsigned article quotes a number of opinions on the published tables of alcohol content of galenical preparations. One observer points out that practically all of the tabulated statements so far published are misleading and are destined to be the source of a great deal of annoyance and misapprehension on the part of retail pharmacists.—Drug. Circ., N. Y., 1907, v. 51, p. 320.

Attention is called to the fact that the Secretary of Agriculture points out that the law is specific regarding the declaration of the quantity or proportion of alcohol present in drug products and suggests that the percentage of alcohol given on the label should be the percentage of absolute alcohol by volume contained in the finished product.—Am. J. Pharm., Phila., 1907, v. 79, pp. 192-193.

An editorial discusses the objection against the use of alcohol, and the prevailing fad affected by some proprietary manufacturers in favor of glycerin.—Pharm. Era, N. Y., 1907, v. 37, p. 317.

An editorial calls attention to the fact pointed out by Grinnell, that the sale of patent medicines containing alcohol, of opium and other habit-forming drugs increases when the sale of alcohol is prohibited.—Brit. M. J., 1907, v. 2, p. 44.

Hunt, Reid, reports studies on experimental alcoholism and points out that the experiments appear to show that moderate amounts of alcohol may cause distinct changes in certain physiological func-

tions, and that these changes may, under certain circumstances, be injurious to the body.—Bull. Hyg. Lab. U. S. P. H. & M.-H. S. No. 33, pp. 43, Feb., 1907.

Mansfeld and Fejes report a series of comparative observations on the toxic effect of alcohol on normally nourished and on fasting animals.—Arch. internat. de Pharmacod. et de Thérap., 1907, v. 17, pp. 353-362.

Gréhant, Nestor, presents a study of the physiologic action of alcohol.—J. de physiol. et de path. gén. Par., 1907, v. 9, pp. 978-986.

Hall, Winfield S., discusses the physiologic effects of alcohol on the human system, and compares its effects with those of food in parallel columns.—J. Am. M. Ass., 1907, v. 48, pp. 393-396.

Hausmann, W., reviews some of the work that has been done on the habituation of the animal organism to alcohol and the functional derangements caused by its use.—Ergeb. d. Physiol., 1907, v. 6, pp. 89-93.

Salant, William, reports a number of experiments to determine the influence of alcohol on the metabolism of hepatic glycogen.—Journ. Biol. Chem., N. Y., 1907, v. 3, pp. 403-418.

An editorial comments on the "storm in a teacup" raised in England by the manifesto favoring the use of alcohol signed by 16 eminent men. The editor states that the manifesto appeared when the British Government was preparing a bill inimical to the liquor interests and it seems a fair deduction that the signers of the manifesto were the unwitting dupes of the liquor interests.—J. Am. M. Ass., 1907, v. 48, p. 2121.

An unsigned article reviews the controversy on the use of alcohol which has been subject of much correspondence in the medical and lay press.—Therapist (The), London, 1907, v. 17, pp. 47-48.

Woodhead, Sims, is quoted as asserting that alcohol was murderous to infants, highly injurious to children, dangerous for youths, unnecessary for healthy parents, and its use as a drug for disease was too perilous, unless prescribed by cultured physicians. He believes no man could do the very best work if he were taking alcohol, and he is prepared to stand by this statement.—Pharm. J. Lond., 1907, v. 25, p. 28.

Additional references on the production and testing of alcohol will be found in Chemical Abstracts and on the use of alcohol in the Index Medicus and the J. Am. M. Ass.

ALCOHOL, DENATURED.

An abstract calls attention to the regulations for the manufacture and sale of denatured alcohol, which appear in Circular 21, issued by the U. S. Internal-Revenue Department.—Pharm. J., Lond., 1907, v. 24, p. 24.

An editorial discusses the future of denatured alcohol, the influence of the regulations that have been promulgated, the influence of the reduction of wood alcohol, and the cost of the denatured product.—*Am. Druggist*, N. Y., 1907, v. 50, p. 2.

Dimmitt, Addison, discusses the use of denatured alcohol and calls attention to the requirements of the United States Government regulating the sale of this product.—*Proc. Kentucky Pharm. Ass.*, 1907, pp. 88-90.

Eberle, E. G., discusses the composition and the use of denatured alcohol. He also reviews the regulations that are in force in some of the foreign countries relating to denatured alcohol and gives some of the more recent figures relating to its popularity and use.—*Proc. Texas Pharm. Ass.*, 1907, pp. 51-56.

An editorial (*Eng. News*, 57, 572) points out that on account of the greatly increased interest in utilization of alcohol due to the passage of the law allowing the production of denatured alcohol in small farm distilleries, the U. S. Dept. of Agriculture has issued *Farmers' Bulletin* 277, treating this subject. A table relative to costs of various fuels for power purposes is given.—*Chem. Abstr. Am. Chem. Soc.*, 1907, v. 1, p. 2305.

The new regulations for denatured alcohol are reprinted.—*Oil, Paint and Drug Reporter*, New York, 1907, v. 72, July 29, p. 281.

A book review calls attention to a volume on industrial alcohol, its manufacture and uses, edited by John K. Brachvogel, and published by Munn & Co., New York. The book is largely a translation of the body of the revised edition of the "Introduction to distillation" of Doctor Maercker, to which has been added much valuable information by the translator and the collaborators.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 429.

Bigelow, S. Lawrence, (*University of Mich. Pop. Sci. Monthly*, 70, 243-264) discusses the manufacture of alcohol, the denaturants employed in various countries, and the uses of denatured alcohol. He also discusses the denatured alcohol law and regulations and the probable effect upon the industries.—*Chem. Abstr. Am. Chem. Soc.*, 1907, v. 1, p. 1310.

An abstract (from the Fiftieth Report of the Commissioners of His Majesty's Inland Revenue) discusses the use of industrial alcohol, and describes a new variety of methylated spirit now available for industrial purposes. Also gives a table of the quantities of home-made spirit received for the manufacture of methylated spirit during the year.—*Pharm. J.*, Lond., 1907, v. 25, pp. 312-313.

Sy, Albert P., presents a short review of the alcohol industry and the possible importance of the free alcohol law. He summarizes the advantages of alcohol over other fuels, and asserts that alcohol is cheaper, more reliable and efficient; it is much cleaner to handle and

use; there is no danger from poisoning, like there is in the use of natural or manufactured gases.—*J. Frankl. Inst., Phila., 1907, v. 163, pp. 57-67.*

An editorial calls attention to the amendment to the denatured alcohol law, which, it is thought, will enable farmers and small dealers to engage in the manufacture of that product.—*Drug Topics, New York, 1907, v. 22, p. 17.*

A news item discusses the amended alcohol regulations.—*Oil, Paint and Drug Reporter, New York, 1907, v. 71, April 8, p. 28D.* (See also *Ibid.*, April 15, p. 55.)

Eberle, A. R., believes that it would be desirable to tint denatured alcohol and also wood alcohol with an aniline color to prevent the accidental sale or the use of these alcohols for medicinal purposes.—*Proc. Wisconsin Pharm. Ass., 1907, p. 67.*

A news item records an amendment to the denatured alcohol law which will permit the withdrawal of specially denatured alcohol for the manufacture of ether, chloroform, or other definite chemical substances where the alcohol does not appear as such in the finished product.—*Drug. Circ. N. Y., 1907, v. 51, p. 287.*

An unsigned abstract enumerates a number of tests devised by Prof. Schmidt and elaborated by Professor Coblentz for the detection of denatured alcohol in various pharmaceutical preparations.—*Am. Druggist, N. Y., 1907, v. 51, p. 46.*

An editorial points out that the price of wood alcohol has dropped so that it is now a serious competitor to the new form of grain alcohol.—*Meyer Bros. Drug., St. Louis, 1907, v. 28, p. 47.*

Farmers' Bulletins No. 268, No. 269, and No. 277 present information on industrial alcohol, its sources and manufacture, uses and statistics, and its possible use in farm engines.

Additional references on the production and uses of denatured alcohol will be found in the Experiment Station Record and in Chemical Abstracts.

ALOE.

Nelson, Burt E., calls attention to the origin of aloes, the appearance of the powdered drug under the microscope, and the characteristic plant structures sometimes found in it.—*Merck's Report, N. Y., 1907, v. 16, p. 219.*

Schneider, Albert, points out that many species and varieties of aloes are cultivated as ornamental plants. They resemble the century plant (agaves) and thrive well in dry sandy soil. Whether they could be grown profitably for the inspissated juice, which is used medicinally, would have to be determined experimentally.—*Pacific Pharm., San Francisco, 1907-8, v. 1, p. 249.*

Mitchell, Edward, asserts that most of the stock on the market for some time past has been of the false or Curaçao variety. No small gourds are now in the market. He knows of but one lot of genuine received in this country for some time.—Proc. Arkansas Pharm. Ass., 1907, p. 89.

Cowen, C., (Cape Times) points out that in 1853 the total exports of aloes amounted to 224,542 lbs. while in 1904 the total amount was 647,351 lbs. with a considerable reduction in value. He attributes the falling off in price to inferior quality or irregular methods of preparing the aloes.—Chem. & Drug. Lond., 1907, v. 70, p. 773.

Marloth, R., (Transactions of the South African Philosophical Society, v. 16, part 3, pp. 213–216) asserts that *A. succotrina* Lam. and *A. pluridens* Haw. are not synonyms, as stated by Schönland, but very different from one another. He has found the true habitat of *A. succotrina* on the slopes of Table Mountain and in a postscript also records the finding of a variety of this species among the rocks of little Lionshead near Houtbay.—Bot. Centralbl., 1907, v. 104, p. 61.

Léger, E., contributes a paper on Jafferabad and Uganda aloes.—J. de pharm. et de chim. Par., 1907, v. 25, pp. 476–483.

He presents another paper on barbaloin; its existence in the majority of aloes; its composition and formula.—*Ibid.*, pp. 513–517.

Alvarez, E. Pinerua, in discussing color reactions of some organic compounds, points out that by his process with the hydrate of sodium dioxide, pure ethyl alcohol, and cold water he obtains with emodine an intense rose color, which becomes yellow on the addition of a few drops of acetic acid.—Ann. de chim. analyt. Par., 1907, v. 12, p. 9.

Niece, Frederic E., outlines a color reaction for testing the identity of tincture of aloes.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 481.

Hankey, W. T., points out that the U. S. P. requires that aloes yield a nearly clear solution in warm alcohol. He finds market lots 85 per cent to 95 per cent soluble.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 322.

Blome, Walter H., (com. on adulterations) reports 2 samples of aloes containing gum, dextrin, or inorganic matter. One left only 1.96 per cent of ash.—Proc. Michigan Pharm. Ass., 1907, p. 66.

The inspectors of pharmacies report that aloes continues to be found of inferior quality and frequently contains impurities.—Ann. de pharm. Louvain, 1907, v. 13, p. 275.

Philipp Röder (Jahresbericht, Wien, 1907, p. 21) reports refusing 9 of the 19 samples of aloes submitted. Seven of these samples did not comply with the pharmacopœial requirements for aloes, and 2 additional samples while giving the characteristic reaction with nitric acid contained an excessive amount of ash.

Smith, Otis W., thinks that the point has been reached where aloes may well be abandoned for an equivalent amount of aloin. The latter is now obtainable of uniform quality and at a low price.—Proc. Missouri Pharm. Ass., 1907, p. 135.

Hommell, P. E., thinks the Lady Webster Dinner Pill should be dropped from the U. S. P., as it is rarely prescribed and possesses little value from a therapeutic standpoint.—Proc. New Jersey Pharm. Ass., 1907, p. 62.

Clark, B. G., believes that aloes is an antipsoric, having many symptoms like sulphur. He recommends its use in the treatment of rachitis.—Tr. Am. Inst. Homœop., 1907, 63d session, p. 476.

ALOINUM.

Dohme and Englehardt point out that the requirements of the solubilities of aloin in water, alcohol, and acetone have been reduced by the correction which was necessitated by the fact that the commercial product is not a uniform substance, but consists of at least two bodies.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 378.

Léger, E., discusses the composition, formula, and distribution of barbaloin, and points out that it is generally admitted that barbaloin is a methyl-anthracene derivative.—J. Pharm. Chim., 1907, v. 25, pp. 513-517.

Sayre, L. E., reports examining a sample of aloin which contained 0.28 per cent of ash. He points out that the ash content permitted by the U. S. P. VIII is entirely too low and should be revised.—Bull. Kansas Bd. Health, 1907, p. 12.

Blome, Walter H., (com. on adulterations) reports on 8 samples: 1 left 1 per cent of ash. Solubility of nearly all not in accordance with U. S. P.—Proc. Michigan Pharm. Ass., 1907, p. 66.

ALTHÆA.

Schneider, Albert, points out that native and introduced species of althæa occur in great profusion in California, some constituting very troublesome weeds.—Pacific Pharm., San Francisco, 1907-8, v. 1, p. 249.

Stscherbatscheff, D., describes and figures the development of the seed of *Althæa officinalis* L.: also describes the structure of the seed and the development of the root.—Arch. d. Pharm., 1907, v. 245, pp. 60-65.

ALUMEN.

An abstract from the United States Geological Survey discusses the undeveloped alum deposits in the United States.—Paint, Oil and Drug Rev., Chicago, 1907, v. 44, September 4, p. 43.

Gooch and Osborne discuss the reaction between potassium aluminum sulphate and a bromide bromate mixture.—*Ztsch. f. anorg. Chem.*, 1907, v. 55, pp. 188–194.

Seoville, W. L., asserts that clean alum is difficult to get. Always makes cloudy solution and shows presence of iron.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 322.

Patch, E. L., reports samples of powdered alum which made opaque solutions with solvent in excess. Others dissolved clear.—*Ibid.*, v. 55, p. 322.

Blome, Walter H., (com. on adulterations) reports on powdered alum: almost all ammonia alum, very little potassium in the compound. Solubility off.—*Proc. Michigan Pharm. Ass.*, 1907, p. 66.

The inspectors of pharmacies point out that alum frequently contains iron and that ammonia alum has been found in place of potassium alum.—*Ann. de pharm. Louvain*, 1907, v. 13, p. 325.

An editorial discusses the use of alum as a water purifier, and points out that, properly applied (or rather its active constituent, sulphate of alumina), when decomposed by the bicarbonate of lime contained in nearly all waters, precipitates insoluble hydrate of alumina in a gelatinous form, which enmeshes, entangles, and carries down bacterial and suspended matter alike, leaving the purified water brilliantly clear.—*Paint, Oil and Drug Rev.*, Chicago, 1907, v. 43, May 22, p. 22.

ALUMEN EXSICCATUM.

Murray, Benjamin L., points out that the statement "very slowly" soluble is quite appropriate for an article of U. S. P. quality. Sometimes several days are found necessary to dissolve a small quantity of the salt.—*Merck's Report*, N. Y., 1907, v. 16, p. 249.

Blome, Walter H., (com. on adulterations) reports on the examination of 3 samples of burnt alum: 1 contained trace of iron. Two others were essentially ammonia alum, contained almost no potassium, and were very insoluble.—*Proc. Michigan Pharm. Ass.*, 1907, p. 87.

Philipp Röder (*Jahresbericht*, Wien, 1907, p. 22) reports that of 3 samples of dried alum examined but 1 complied with the requirements of the pharmacopœia. The other two samples were refused because of their comparative insolubility in water.

ALUMINI SULPHAS.

Philipp Röder (*Jahresbericht*, Wien, 1907, p. 23) reports on 5 samples of aluminum sulphate containing traces of iron.

Hébert, Alexandre, discusses the toxicity of the salts of chromium, aluminum, and magnesium, their action on diverse fermentations, and makes a comparison with analogous properties of the rare earths.—*J. de physiol. et de path. gên. Par.*, 1907, v. 9, pp. 751–758.

AMMONII BROMIDUM.

Bachman, Gustav, (com. on adulterations) reports ammonium bromide ranging from 96.4 per cent to 92.3 per cent instead of 97 per cent, as required by the U. S. P.—Proc. Minnesota Pharm. Ass., 1907, p. 40.

Caspari, Chas. E., (com. on adulterations) examined 16 samples, 12 satisfactory; 4 contained excess of chloride.—Proc. Missouri Pharm. Ass., 1907, p. 144.

N. Y. State Board of Health, Eastern Branch, examined 12 samples; 4 deficient.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 322.

Philipp Röder (Jahresbericht, Wien, 1907, p. 23) reports that of 4 samples of ammonium bromide examined, one was objected to because of an excessive amount of sulphate.

AMMONII CARBONAS.

White, Edmund, describes the properties of ammonium carbonate that make it useful as a reagent, gives tests for impurities, and describes the trade varieties.—Pharm. J. Lond., 1907, v. 24, p. 495.

Angelucci, O., (Gaz. chim. ital., 36, II, pp. 517-522, 1906) discusses the synthesis of ammonium carbonate from acetylene and nitrous oxide at high temperatures.—Physikal. Chem. Centralbl., 1907, v. 4, p. 214.

Wilson, L. E., keeps carbonate of ammonia in full strength, by saturating a small piece of cotton or sponge with stronger water of ammonia and placing it in the bottom of the bottle. The blocks of ammonium carbonate will not turn white, crumble, nor lose their ammonia odor and strength.—Bull. Pharm., 1907, v. 21, p. 380.

Blome, Walter H., (com. on adulterations) reports a sample of ammonium carbonate which contained traces of iron.—Proc. Michigan Pharm. Ass., 1907, p. 67.

Patch, E. L., examined 5 samples varying from 94.22 per cent to 96.72 per cent.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 322.

Caspari, Chas. E., (com. on adulterations) examined 8 samples, 6 satisfactory; 2 were deficient in ammonia.—Proc. Missouri Pharm. Ass., 1907, p. 144.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 6) report that only 14.6 cc. sulphuric acid were neutralized by 1 gm. of a sample labeled "commercial." Two samples submitted as Ph. Brit. equaled 18.2 and 16.8 cc., respectively.

Kinyon, C. B., recommends ammonium carbonate for severe pains in the back extending through the uterus; menses scanty, too early, but flow is more free at night.—Tr. Am. Inst. Homœop., 1907, 63d session, p. 384.

AMMONII CHLORIDUM.

White, Edmund, describes ammonium chloride, gives tests for impurities and describes the various trade varieties available, calling attention to the many forms in which this article appears on the market.—*Pharm. J. Lond.*, 1907, v. 24, p. 495.

Blome, Walter H., (comm. on adulterations) reports that ammonium chloride contained a small amount of sulphate.—*Proc. Michigan Pharm. Ass.*, 1907, p. 67.

Kline and Graham report examining one sample of ammonium chloride which contained a large percentage of sodium chloride. They point out that when it is so adulterated it is not completely volatile and gives the yellow sodium flame.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 82.

The inspectors of pharmacies report finding ammonium chloride contaminated with sodium chloride.—*Ann. de pharm. Louvain*, 1907, v. 13, p. 326.

Philipp Röder (*Jahresbericht*, Wien, 1907, p. 24) reports one sample of ammonium chloride which left on incineration a residue amounting to 18.2 per cent, consisting largely of calcium and sodium chloride.

AMYGDALA AMARA.

Rosendahl, H. V., describes and figures the structural characteristics of bitter almond and some of the related nuts or seeds.—*Svensk. farm. Tidskr.*, 1907, v. 11, pp. 3–6.

Rosenthaler, L., discusses the chemistry of amygdalin and its supposed relation to maltose. He concludes that the decomposition of amygdalin does not yield maltose and that, therefore, it is not a maltosid.—*Arch. d. Pharm.*, 1907, v. 245, pp. 684–685.

Philipp Röder (*Jahresbericht*, Wien, 1907, p. 26) reports examining 18 samples of bitter almond water which varied in total hydrocyanic acid content from 1.058 to 1.215 and free hydrocyanic acid content from 0.135 to 0.904; the relation varying from 1.23 to 8.05 per cent.

AMYLIS NITRIS.

Dohme and Englehardt point out that the *Ph. Ndl. IV* applies Dietze's method for the estimation of amyl nitrite with very good results, it is short in manipulation and does away with the use of the nitrometer.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 378.

A communication to the editor calls attention to the extremely volatile character of concentrated amyl nitrite and the need for care in handling sealed tubes or vials containing it.—*Chem. & Drug. Australas*, 1907, v. 22, p. 181.

Lisin, F., discusses the uses of amyl nitrite as a vaso dilator and reviews some of the literature relating to it.—*Arch. internat. de Pharmacod. et de Thérap.*, 1907, v. 17, pp. 484-486.

Crace-Calvert, George A., states that he has used amyl nitrite for hemoptysis, and considers it the best drug we have for this condition.—*Lancet*, Lond., 1907, v. 172, p. 939.

Additional references on the use of amyl nitrite will be found in the *Index Medicus* and the *J. Am. M. Ass.*

AMYLUM.

Nelson, Burt E., describes and figures several starches and gives some of their characteristic properties.—*Merck's Report*, N. Y., 1907, v. 16, p. 192.

Kraemer, Henry, discusses and illustrates the structure of the starch grains and the possibility of readily distinguishing the various starches by their structure and their behavior with different reagents and stains; also discusses the action of iodine upon starch and the staining of the starch grain.—*Am. J. Pharm.*, Phila., 1907, v. 79, pp. 217-229, 412-418.

Gastine, G., discusses the use of polarized light for the microscopic examination (detection) of rice and cornstarch in wheat flour.—*Ann. de chim. analyt. Par.*, 1907, v. 12, pp. 85-87.

Marcille, R., apropos of Gastine's work, suggests a method which he claims to be simple, rapid, and sufficient in the majority of cases.—*Répert de pharm. Par.*, 1907, v. 19, p. 195. (See also *Compt. rend. Acad. de sc. Par.*, 1907, v. 144, pp. 35-37.)

Fouard, E. (*C. R. t.*, 144, pp. 501-503, 1366-1368, 1907), presents some researches on the colloidal properties of starch.—*Physikal. Chem., Centralbl.*, 1907, v. 4, pp. 336-337, 547-549.

Ermen, W. F. A., records the examination of a number of starches for the purpose of determining the comparative viscosity of the resulting paste.—*J. Soc. Chem. Ind.*, Lond., 1907, v. 26, pp. 501-504.

Maquenne and Roux (*Ann. d. Chim. et de Phys.*, 8. sér. t. 8, pp. 179-221, 1906) present some researches on the diastasic saccharification of starch.—*Physikal. Chem. Centralbl.*, 1907, v. 4, pp. 79-81.

Gilmour, J. P., reports 4 out of 24 samples not up to Ph. Brit. requirements; potato starch present.—*Year Book of Pharmacy*, Lond., 1907, pp. 446-455.

Patch, E. L., points out that it is stated that no genuine Bermuda arrowroot has been offered for sale for some time; that none is being produced in Bermuda. A product is sold at 85 cents per pound that has been pronounced to be St. Vincent arrowroot manipulated to have the soft appearance natural to the genuine.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 323.

Dawson, Edward S., prefers the old method of preparing glycerite of starch. The resulting preparation, he asserts, is smooth and in proper condition to have dry powders incorporated with it.—Proc. New York Pharm. Ass., 1907, p. 226.

Additional references on the structure, composition, and properties of starch will be found in the Experiment Station Record and in Chemical Abstracts.

ANISUM.

Nelson, Burt E., describes and figures the structural characteristics of powdered anise.—Merk's Report, N. Y., 1907, v. 16, p. 38.

Philipp Röder (Jahresbericht, Wien, 1907, p. 71) found that one sample of anisum contained 15.12 per cent of ash. Two additional samples were well within the 10 per cent limit, being 5.74 and 5.81, respectively.

Blome, Walter H. (com. on adulterations), reports on a sample of anise which contained a small quantity of coriander, probably due to accidental contamination.—Proc. Michigan Pharm. Ass., 1907, p. 67.

STAR ANISE.

Perrot, E., says that after all that has been written on the subject one would think that the addition of Japanese star anise to the Chinese had disappeared, but it has not at all.—Bull. d. sc. pharmacol. Par., 1907, v. 14, p. 349.

Hartwich, C., reviews the literature concerning the characters of distinction of the fruits of the different species of *Illicium*. He concludes his paper with a brief résumé of the different fruits heretofore described grouped according to the number of carpels. The paper is accompanied by two tables, illustrating the distinguishing characters in shape and size of the carpels of the different fruits.—Schweiz. Wshnschr. f. Chem. u. Pharm. Zürich, 1907, v. 45, pp. 798-809.

ANTIMONII ET POTASSII TARTRAS.

Lyons, A. B., asserts that the test for arsenic in tartar emetic has been made extraordinarily liberal, permitting the presence of nearly 0.1 per cent.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 64.

Hankey, W. T., states that all samples examined for fifteen years have had traces of arsenic.—*Ibid.*, v. 55, p. 331.

Blome, Walter H., (com. on adulterations) reports tartar emetic containing a trace of arsenic. Two out of 8 samples contained sulphate.—Proc. Michigan Pharm. Ass., 1907, p. 71.

Rosenberger, A. S., points out that tartar emet. is indicated in lassitude, with great sensitiveness to cold, chilliness.—Tr. Am. Inst. Homœop., 1907, 63d session, p. 419.

He points out that Dr. J. F. Gray, of New York, was of the opinion that "tar. emetic" was the proper remedy for the first stage of influenza; for the second or bronchial stage, phos. bry., ac., and hyos. are indicated.—*Ibid.*, 1907, 63d session, p. 418.

NONOFFICIAL COMPOUNDS.

Gausby, R. A., asserts that the market affords a good quality of antimony sulphide, but that the so-called black antimony sold as horse medicine contains no antimony whatever. It consists largely of coal dust containing about 5 per cent of iron filings.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 79.

Barnard, H. E., reports that 5 samples of black antimony examined were all found to be adulterated, being nothing but powdered charcoal.—*Rep. Indiana Bd. Health*, 1907, p. 197.

Evans Sons Lescher and Webb (*Analytical Notes*, 1907, 1908, p. 6) find black antimony with a purity of from 95 to 98 per cent.

ANTIPYRINA.

Schweitzer, Hugo, outlines the history of the discovery of antipyrine by Knorr in 1883. He points out that the discovery of antipyrine was directly due to a mistaken idea of the composition of quinine and that a knowledge of the true composition of the latter would probably have prevented the experiments which led to the discovery of the former.—*D.-A. Apoth.-Ztg.*, N. Y., 1907-8, v. 28, p. 25.

Steensma, F. A., outlines a new reaction for antipyrine which yields a red residue on the evaporation of a trace of antipyrine with several cc. of a solution of 1 gm. of p-dimethylamidobenzaldehyde and 5 cc. of 25 per cent hydrochloric acid in sufficient absolute alcohol to make 100 cc.—*Pharm. Weekbl.*, 1907, v. 44, pp. 1066, 1067.

Riedel's *Berichte* (Berlin, 1907, pp. 67-69) discusses the use of picric acid as a precipitant for antipyrine and the determination of the crystalline structure and the melting point of the resulting compound as a test for antipyrine.

Ceroni, G., reports finding a new pharmaceutical incompatibility in a prescription calling for antipyrine, 0.3, and phenacetin and acetanilid each 0.2, to be dispensed in powders.—*Boll. chim. farm.*, 1907, v. 46, pp. 794-795.

Gilmour, J. P., examined 20 samples of phenazone, all of which were of Ph. Brit. standard, but several had an offensive animal odor.—*Year Book of Pharmacy*, Lond., 1907, pp. 446-455.

Evans Sons Lescher and Webb (*Analytical Notes*, 1907, 1908, p. 37) found a sample which melted indefinitely between 80 and 100° C. to be a mixture of phenazone and phenacetin. They frequently find that the melting point of phenazone obtained from makers of repute

is below that given in the Ph. Brit. (i. e., 113° C.). For example, several lots examined recently melted definitely at 110.5 and 111° C.

An unsigned article reviews the untoward side effects produced by antipyrine and some of its derivatives.—Suedd. Apoth. Ztg., 1907, v. 47, p. 171.

A number of references on the use of antipyrine will be found in the Index Medicus and the J. Am. M. Ass.

APOCYNUM.

Henkel, Alice, describes and figures *Apocynum cannabinum* L., commonly called black Indian hemp, Canadian hemp, American hemp, amyroot, bowman's root, bitter root, Indian physic, rheumatism weed, milkweed, wild cotton, and Choctaw root.—Bul. Bur. Plant Ind., U. S. Dept. Agric., 1907, No. 107, pp. 55–56.

Farwell, O. A., asserts that there is little of the *Apocynum androsaemifolium*, Lin., offered upon the markets of this country, *Apocynum cannabinum* being usually supplied.—Merck's Report, N. Y., 1907, v. 16, p. 220.

Schneider, Albert, points out that both *Apocynum androsaemifolium*, var. *pumilum*, and *Apocynum cannabinum* L., are native of California, and that the latter is a common plant of which the bark fiber is much used by the Indians in weaving all manner of cordage and cloth fabrics.—Pacific Pharm., San Francisco, 1907–8, v. 1, p. 303.

Gane, E. H., points out that the percentage of alcohol in fluid extract of apocynum varies with the method of determination and the amount of water and extractive contained in the drug. He presents some figures illustrating this point.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 318.

Lehr, W. T., contributes a paper on apocynum, which is discussed among others by Watkins who is accustomed to commence with 5 drops and if it does not produce nausea or dizziness increases gradually to 30 drops. He has had 2 cases in which after the dropsy had been relieved by apocynum the patient dropped dead. He has often wondered whether this sudden death was due to the remedy or to the removal of the water.—Eclectic M. J., Cincin., 1907, v. 67, pp. 479–482.

APOMORPHINÆ HYDROCHLORIDUM.

Ach and Steinbock report some experimental work and discuss the occurrence of an intermediary product in the formation of apomorphine.—Ber. d. deutsch. chem. Gesellsch., Berl., 1907, v. 40, III, pp. 4281–4285.

Pschorr, Robert, discusses the constitution of apomorphine, particularly its influence on our knowledge of the composition of morphine.—*Ibid.*, v. 40, pp. 1984–1995.

Pschorr and Spangenberg discuss the chemistry of apomorphine and some of its derivatives and decomposition products.—*Ibid.*, v. 40, pp. 1995–2003.

Pégumier, G. M. (*Répert. de Pharm.*), discusses the causes for the rapid decomposition of solutions of apomorphine, and outlines a method which he asserts will yield a solution that will keep for a considerable length of time.—*Pharm. Ztg. Berl.*, 1907, v. 52, p. 605.

Trautmann, A., asserts that a solution of apomorphine hydrochloride containing 25 per cent of alcohol and 5 per cent of dilute hydrochloric acid will keep for years without change.—*Ibid.*, v. 52, p. 640.

Madsen, H. P., reports a number of experiments to determine the influence of time on solutions of apomorphine hydrochloride. He concludes that even apparently decomposed solutions are still active.—*Ibid.*, v. 52, p. 668.

Wester, D. H., discusses the preservation of apomorphine hydrochloride as directed in the Ph. Helv. IV, and concludes that the protection from moisture is more important than the protection from light.—*Pharm. Weekbl.*, 1907, v. 44, p. 712.

The inspectors of pharmacies assert that owing to lack of care in preserving apomorphine hydrochloride is frequently changed by light and humidity, and is nearly always found to have a green color.—*Ann. de pharm. Louvain*, 1907, v. 13, p. 326.

Shannon, E. R., relates some experiences with apomorphine hydrochloride, as a sedative and antispasmodic.—*Critic and Guide*, New York, 1907, v. 8, March, p. 38.

Rosenwasser, Charles A., discusses the use of apomorphine in acute alcoholism, and makes a plea for its more extensive employment. He presents a bibliography of the literature bearing on the use of apomorphine in alcoholism.—*Med. Rec.*, N. Y., 1907, v. 72, pp. 144–146.

Douglas, C. J., discusses the question of priority in the discovery of the hypnotic action of apomorphine.—*Ibid.*, v. 72, p. 489.

AQUÆ.

Mittelbach, Wm., believes that the use of talcum instead of the calcium phosphate is a great improvement and adds that a general criticism of most of the official waters is that they are unstable products. If they were required to be distilled products much more satisfactory conditions would prevail. Witch-hazel water, a distilled product, keeps very well; so do the stronger rose and orange flower waters.—*Proc. Missouri Pharm. Ass.*, 1907, p. 130.

Cleland is reported as saying that as the aromatic waters are chiefly used for flavoring, they need not, be made by distillation, and he further suggests that the Ph. Brit. might allow their manufacture direct from the oils with potable water.—Pharm. J., Lond., 1907, v. 24, p. 61.

Lenton, Walter H., asserts that the waters produced by distillation are unquestionably superior to those made by triturating the oil with calcium phosphate and shaking with water. Those made by shaking with hot water come next to those prepared by distillation. He believes that it is rather a pity that this method is not given more prominence.—*Ibid.*, v. 25, p. 527.

AQUA.

The Ph. Helv. IV. requires that wherever water or aqua is called for distilled water is to be understood.

"Gnomon" discusses the proposed use of potable water in place of distilled water for many purposes, and points out that the water obtained from various sources necessarily contains varying ingredients and that it would be practically impossible to secure by the use of these waters uniform results in pharmaceutical preparations.—Pharm. J., Lond., 1907, v. 24, p. 82.

Schweikert, H., discusses the use of iron hydroxide for the purification of water and outlines an economic method for the production of a suitable colloidal iron hydroxide without dialysis. Also reports experiments showing the changes in the composition of water.—Arch. d. Pharm., 1907, v. 245, pp. 12-25.

Klut discusses the various constituents of water that contribute to what is referred to as "hardness" and the determination and removal of these substances.—Pharm. Ztg., Berl., 1907, v. 52, pp. 951-952.

Hughes, J. A., outlines a short scheme of water analysis and enumerates the more desirable tests for determining the potability of water.—Chem. & Drug., Lond., 1907, v. 70, pp. 135-136.

Nish, F. W., records a chemical and bacteriological examination of the water supply of San Francisco and presents a number of suggestions on the systematic examination of potable waters.—Pacific Pharm., San Francisco, 1907-8, v. 1, pp. 26-31.

AQUA DESTILLATA.

An editorial discusses the use of distilled water in pharmacy, calls attention to the readiness with which distilled water deteriorates, and questions the advisability of continuing its use in medicaments, particularly in view of the fact that recently sterilized potable water would be less objectionable, more economical and more readily obtained.—D.-A. Apoth.-Ztg., 1907, v. 28, pp. 104-105.

Diner (Apothecary, March, 1907, 186) explains with illustrations his method of keeping distilled water for prescription use.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 826.

Dewey, A. H., describes and figures an apparatus for the production of ammonia free distilled water.—*Pharm. Rev.*, Milwaukee, 1907, v. 25, p. 206.

Sander, Enno, presents some observations on the distilling of water for making aerated water.—*Pacific Pharm.*, San Francisco, 1907-8, v. 1, pp. 295-297.

Gilmour, J. P., points out that unless the pharmacist prepares his own distilled water there is, great, if not insuperable, difficulty in procuring it pure. In nine cases out of ten the sample has an odor, yields a residue which is quite visible, and often exceeds the U. S. P. limit of 0.075 gm. per 1,000 cc. and fails to give clear solutions with soluble silver salts. To insure effective preservation of distilled water it would be necessary after the prescribed rinsing to fill the vessel with sterilized air, and also to supply this whenever water is withdrawn from the vessel.—*Pharm. J. Lond.*, 1907, v. 25, p. 110.

Baird, J. W., (com. on adulterations) reports on 5 samples, 2 genuine, 3 adulterated.—*Proc. Massachusetts Pharm. Ass.*, 1907, p. 39.

Marcus (Hydrotherapeut. Inst., Berlin, *Berl. klin. Wochschr.* 44, pp. 390-392, 1907) reports the results of comparative investigations on the action of drinking distilled water in a case of chronic nephritis.—*Chem. Abstr. Am. Chem. Soc.*, 1907, v. 1, p. 1734.

AQUA AMMONIÆ.

Mitchell, Edward, asserts that for stronger ammonia water the present pharmacopœia calls for 28°, whereas 26°, which they label "technical," was formerly U. S. P.—*Proc. Arkansas Pharm. Ass.*, 1907, p. 90.

Mittelbach, Wm., asserts that the necessity of having two strengths of ammonia water is not apparent. The stronger water of ammonia can readily be reduced; or, better still, a 20 per cent water might be adopted to replace both of the present ones.—*Proc. Missouri Pharm. Ass.*, 1907, p. 130.

Blackman, Philip (E. London Coll. Chem. News, 95, 133-134), believes that the percentage of ammonia existing as ammonium hydroxide in aqueous solution can be obtained by dividing the molecular conductivity of the solution by a quantity which is practically the sum of the conductivities of the ammonium and hydroxyl ions.—*Chem. Abstr. Am. Chem. Soc.*, 1907, v. 1, p. 1512.

Cripps, R. A., reports that one sample of aqua ammonia deteriorated from 10.27 per cent on March 2, 1904, to 9.74 per cent on February 23, 1907. The second sample, during the same period,

decreased from 10.27 per cent to 9.62 per cent.—Pharm. J., Lond., 1907, v. 24, p. 519.

Bachman, Gustav, (com. on adulterations) reports stronger ammonia water, ranging from 27.2 per cent to 22.1 per cent, instead of 28 per cent as required by the U. S. P.—Proc. Minnesota Pharm. Ass., 1907, p. 41.

Kline and Graham assert that much of the ammonia water on the market gives off a strong empyreumatic odor when neutralized with sulphuric acid. They think every lot should be tested.—Proc. Pennsylvania Pharm. Ass., 1907, p. 82.

Brown, Geo. S., reports examining 10 samples of aqua ammonia which were found to vary from 4.6 to 19.8 per cent of NH_3 .—Proc. Louisiana Pharm. Ass., 1907, p. 80.

Barnard, H. E., reports that of the 12 samples of aqua ammonia examined 9 were below strength.—Rep. Indiana Bd. Health, 1907, p. 198.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 6) assert that some commercial samples contain heavy tarry contaminations. They recently examined one and found it to give a very pronounced odor of naphthaline when neutralized with sulphuric acid.

Philipp Röder (Jahresbericht, Wien, 1907, p. 23) reports that 2 out of 5 samples of aqua ammonia examined contained empyreumatic matter.

Mathews, A. P., presents a study on the cause of the pharmacological action of ammonium salts, and concludes that the action of ammonium hydrate is to be ascribed probably, as is the chemical action, to the NH_3 formed by dissociation of the hydrate, and probably to the NH_3 in nascent state when the valencies of the nitrogen are open.—Am. J. Physiol., Bost., 1907, v. 18, pp. 58–63.

AQUA AMYGDALÆ AMARÆ.

Rosenthaler, L., discusses the production of distilled oil of bitter almonds, reports a number of experiments, and points out that the necessary emulsion is readily destroyed by heat.—D.-A. Apoth.-Ztg., N. Y., 1907, v. 28, p. 72.

Bridel, M., discusses the several pharmacopœial methods for distilling "aqua lauro cerasi" and outlines a method for determining the hydrocyanic acid content.—Bull. Soc. de Pharm. de Bordeaux, 1907, v. 47, pp. 254–256.

AQUA AURANTII FLORUM.

Philipp Röder (Jahresbericht, Wien, 1907, p. 27) reports that one commercial sample of orange flower water contained a considerable amount of heavy metals.

Mittelbach, Wm., believes that two strengths of orange flower and of rose water seem unnecessary, especially so since the diluted waters are very unstable.—*Proc. Missouri Pharm. Ass.*, 1907, p. 130.

AQUA HYDROGENII DIOXIDI.

Fischer, August, reviews the discovery and introduction of solution of hydrogen dioxide and the various methods that have been suggested for its production. He also discusses the quantitative estimation of available oxygen, the readiness with which hydrogen dioxide is decomposed, and the substances that cause decomposition without themselves being attacked or changed.—*Pharm. Zentralh.*, 1907, v. 48, pp. 57–65, 79–84.

Thomann, Julius, reviews Fischer's work on the quantitative estimation of hydrogen dioxide and the variability of this product due to many causes.—*Schweiz. Wchnschr. f. Chem. u. Pharm. Zürich*, 1907, v. 45, p. 145.

Francis, John M., discusses the need for using acetanilide as a preservative for hydrogen dioxide, describes the functions of acetanilide and gives the results of assay that tell the story. Samples of peroxide of hydrogen not preserved lost from 29 per cent to 100 per cent of the contained oxygen, while samples preserved with acetanilide lost from 4 per cent to 11 per cent.—*Bull. Pharm.*, 1907, v. 21, pp. 285–287.

Murray, B. L., discusses the U. S. P. tests for hydrogen peroxide, and points out the unreliability of phenolphthalein as an indicator in connection with this article.—*Merck's Report*, N. Y., 1907, v. 16, p. 63–64.

Vanderkleed, Charles E., points out that the acidity of commercial samples of hydrogen peroxide solutions is liable to be above the limit of the U. S. P. Asserts that there is no objection to acetanilide, used as a preservative, as the amount used is about one-tenth grain per fluid ounce. Isonitrile reaction suggested for testing.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 85.

Seoville, W. L., states that hydrogen dioxide runs pretty uniform in strength. Varies more in amount of free acid. Most of it is within U. S. P. limits.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 323.

Rupp and Mielck discuss the determination of superoxide combinations by means of alkaline hypoiodite, and outline the application of this method to the determination of the oxygen content of solution of hydrogen dioxide.—*Arch. d. Pharm.*, 1907, v. 245, p. 6.

Claessens (*Répertoire* 3, 18, 504) asserts that when hydrogen peroxide is mixed with an ammoniacal solution of a copper salt, half its oxygen is quantitatively evolved and water formed. The ammoniosulphate of copper reagent or a similar solution of a copper salt is

therefore a useful means of determining the value of H_2O_2 solutions.—Year Book of Pharmacy, Lond., 1907, p. 82.

Dehn, William M., describes a gasometric method for the determination of hydrogen peroxide, and figures an apparatus originally devised as a ureometer which he has found to give rapid and accurate results.—J. Am. Chem. Soc., 1907, v. 29, pp. 1314–1319.

Dulière, Walter, discusses the assay of solutions of hydrogen dioxide with sulphuric acid and solution of potassium permanganate.—Ann. de pharm., Louvain, 1907, v. 13, pp. 1–2.

Filippi, Eduardo, discusses the decomposition of hydrogen peroxide in the presence of various substances.—Arch. farmacol. sper. Roma., 1907, v. 6, pp. 363–395.

Rumpel, H., (Farmazeft, v. 14, p. 987) reports examining a number of samples of solution of peroxide of hydrogen and finds that many contain an excess of acid. From his experiments he concludes that at least 12 per cent of the samples examined are unfit for medicinal use.—Chem. Repert., Cöthen., 1907, v. 31, p. 198.

Bachman, Gustav, (com. on adulterations) reports hydrogen peroxide ranging from 2.87 per cent to 2.38 per cent, instead of 3 per cent as required by the U. S. P.—Proc. Minnesota Pharm. Ass., 1907, p. 41.

Philipp Röder (Jahresbericht, Wien, 1907, p. 83) reports an examination of 5 samples of hydrogen dioxide which contained from 2.71 to 3.10 per cent, and from 9.03 to 10.33 volume per cent.

Gilmour, J. P., reports that 106 out of 120 samples were below Ph. Brit. requirements. It seems certain that average commercial samples, unless recent, never contain 10 volumes of oxygen. It would be better to follow the precedent set in the case of Spt. *Ætheris Nitrosi*, and allow a margin for deterioration or prepare a stronger liquid.—Year Book of Pharmacy, Lond., 1907, pp. 446–455.

The inspectors of pharmacies assert that samples of solution of hydrogen dioxide were found to be devoid of even traces of active oxygen.—Ann. de pharm., Louvain, 1907, v. 13, p. 326.

Evans, C. A. Lovatt, reports some observations on the catalytic decomposition of hydrogen peroxide by the catalase of the blood. He reviews the theories that have been advanced from time to time, describes his methods, discusses the influence of varying concentrations of hydrogen peroxide, the influence of varying concentrations of enzymes, and concludes that no single law expresses the relation between the concentration and activity of the enzyme solution.—Biochem. J., Liverpool, 1907, v. 2, pp. 133–155.

Peters (München. med. Wchnschr., v. 54, No. 9) recommends the addition of hydrogen peroxide to the sputum as a means of breaking up the masses of sputum and distributing the tubercle bacilli evenly through the mass.—J. Am. M. Ass., 1907, v. 48, p. 1556.

Andresen, Viggo (Deutsch. Monatschr. f. Zahnheilkd.), states that a few drops of 30 per cent hydrogen dioxide (perhydrol) of Merck acts almost instantaneously in anesthetizing the dentin. It is to be preferred to nitrate of silver, since it bleaches instead of staining.—Dental Cosmos, Phila., 1907, v. 49, p. 97.

ARGENTI NITRAS.

Richards and Forbes discuss the quantitative synthesis of silver nitrate and the atomic weights of nitrogen and silver.—J. Am. Chem. Soc., 1907, v. 29, pp. 808–826.

Lemâire, P., has found such variation in crayons of nitrate of silver that he recommends that they be made more uniform and suggests a method of assaying them.—Répert. de pharm., Par., 1907, v. 19, pp. 241–246.

Caspari, Chas. E. (com. on adulterations), examined 12 samples, 11 satisfactory; one contained lead.—Proc. Missouri Pharm. Ass., 1907, p. 142.

D. Aertze-Ztg., 1907, No. 18, contains the following formula for a solution the application of which is said to remove the stains of silver nitrate from the skin very quickly: Mercuric chloride, ammonium chloride, aa, 10.0; distilled water, 80.0.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 302.

De Schweinitz, G. E., in discussing the treatment of gonococcic conjunctivitis, with special reference to the silver salts, concludes that neither protargol nor argyrol is a safe remedy when used by itself and that there is no better remedy than properly applied solution of nitrate of silver, which, however, may do harm unless it is applied by a skilled hand.—Therap. Gaz., Detroit, 1907, v. 31, pp. 4–10.

Kelly, John Muir, presents a critical study of organic preparations of silver in the treatment of conjunctivitis.—Brit. M. J., 1907, v. 2, pp. 1475–1480.

Black, G. V., (Dent. Rev.) thinks silver nitrate should be employed with great care, particularly in very deep cavities where there is danger of irritation of the pulp.—Dental Cosmos, Phila., 1907, v. 49, p. 417.

Holinger, Otto, (Dent. Rev.) when using a strong solution of silver nitrate, flushes the mouth with a solution of common salt, say 50 per cent.—*Ibid.*, v. 49, p. 417.

Bryan, L. C., presented a paper on silver nitrate and preventive dentistry.—Abstr. *Ibid.*, v. 49, pp. 1090–1092.

Adams, E. O., recommends the use of "Argentum nitricum" in the chronic form of stomach and duodenal diseases.—Tr. Am. Inst. Homœop., 1907, 63rd session, p. 369.

Additional references on the use of silver salts will be found in the Index Medicus and the J. Am. M. Ass.

ARNICA.

Schneider, Albert, points out that *Arnica montana* L. is a well-known plant in California and one that could be cultivated.—Pacific Pharm., San Francisco, 1907-8, v. 1, p. 305.

Cæsar and Loretz (Geschäfts Ber., 1907, p. 20) call attention to the variation in quality of arnica flowers.

Perrot, E., says that *Arnica montana* is frequently adulterated with the flowers of a related composita, which he has not determined but which is known in commerce as "false arnica."—Bull. d. sc. pharmacol. Par., 1907, v. 14, p. 349.

Barnard, H. E., reports that all of the 17 samples of tincture of arnica that were analyzed proved to be in accordance with the Pharmacopœia requirements, none of them containing wood alcohol.—Rep. Indiana Bd. Health, 1907, p. 189.

New York State board of health, eastern branch, examined 230 samples; 14 were found to be deficient.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 323.

Sayre, L. E., reports on a sample of tincture of arnica which left, on evaporation, a residue of 1.0649 gms.; from 25 cc. of the tincture the corresponding amount of pure tincture left, on evaporation, a residue of 0.5106.—Bull. Kansas Bd. Health, 1907, p. 109.

Blome, Walter H. (com. on adulterations), reports examinations of tincture of arnica: All samples were free from methyl alcohol.—Proc. Michigan Pharm. Ass., 1907, p. 67.

Fornias, Eduardo, asserts that arnica has a well-merited reputation for orchitis from contusion, or similar injuries, especially when the testicle becomes swollen, purple-red, feels as if bruised, and the cord is prominent and painful. It has also been recommended for the attending induration.—Hahnemann. Month., Phila., 1907, v. 42, p. 585.

ARSENI TRIOXIDUM.

Consul W. H. Hunt, of St. Etienne, reviews the world's supply of arsenic and points out that Germany leads in production and America in consumption, the United States consuming more than one-half of the world's production of metallic arsenic, white arsenic (arsenious acid), orpiment, and red sulphate of arsenic.—Oil, Paint and Drug Reporter, New York, 1907, v. 72, September 30, p. 47.

A news note presents some figures on the consumption of arsenic and points out that the United States annually wastes thousands of tons of arsenic in fumes. The production of arsenic in the United States during the year 1906 amounted to 737 tons and the imports to 3,987 tons.—*Ibid.*, v. 72, December 2, p. 55.

Bachman, Gustav (com. on adulterations), reports arsenic trioxide ranging from 98.6 per cent to 95.48 per cent instead of 98 per cent, as required by the U. S. P.—Proc. Minnesota Pharm. Ass., 1907, p. 41.

Philipp Röder (Jahresbericht, Wien, 1907, p. 15) reports examining two samples of arsenic trioxide containing 98.7 and 99.6 per cent of As_2O_3 . One sample did not dissolve readily in ammonia.

An editorial calls attention to two fatalities resulting from the use of Fowler's solution with strychnine solution, the alkali causing the precipitation of the strychnine. To avoid this accident the acid solution of arsenic should be employed.—*Lancet*, Lond., 1907, v. 173, p. 1173.

Auget, V. (*Compt. rend.*, 142, 1906, 1151), describes a number of new methods for the preparation of certain derivatives, such as methylarsine iodide, cacodyl chloride, cacodyl, and tetra-methylarsonium iodide.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 858.

Hausmann, W., discusses the habituation of the organism to arsenic, reviews the literature relating thereto, and records some animal experimentations.—*Ergeb. d. Physiol.*, 1907, v. 6, pp. 83–84.

Lichty, John A., states that when arsenic could not be taken by the mouth its hypodermic injection did little good in the treatment of pernicious anemia. When the gastrointestinal symptoms could not be controlled arsenic was useless or harmful.—*J. Am. M. Ass.*, 1907, v. 48, p. 2179.

Adams, E. O., recommends arsenicum as a remedy where symptoms of gastric irritability are pronounced. Stomach apt to have been injured by cold food or drink, beer or tobacco.—*Tr. Am. Inst. Homœop.*, 1907, 63d session, p. 369.

Stewart, W. R., points out that "arsenicum iodide" is applicable to the case that has general tubercular adenitis or if the abdominal glands alone are the point of invasion, there is emaciation, malnutrition, offensive diarrhœa, and great prostration.—*Ibid.*, 63d session, p. 494.

Additional references on the use of arsenic compounds will be found in the *Index Medicus* and the *J. Am. M. Ass.*

ASAFÆTIDA.

Rusby, H. H., points out that despite previous protests regarding the high requirements for asafetida during the past year, but one lot was received at the port of New York below standard.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 332.

Mitchell, Edward, points out that asafetida from present choice stock shows from 35 to 64 per cent of soluble matter and from 17 to 43 per cent of ash. He asserts that the percentage of soluble matter, which he considers to be the essential feature, is much easier to meet than the U. S. P. requirement as to the amount of ash, which he believes to be nonessential.—*Meyer Bros. Drug.*, St. Louis, 1907, v. 28, p. 307.

Moore, R. W., examined 142 samples, Minimum amount soluble

in alcohol, 9.35 per cent, maximum, 65.15 per cent; 15 only were 50 per cent. Some of the impurities were mixtures of gypsum and resins of asafetida.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 323.

Kline and Graham find the gum asafetida on the market to contain ash varying from 7 to 30 per cent, but at the same time averaging not less than 50 per cent soluble in alcohol. The same material after drying and powdering tests 25 per cent soluble in alcohol.—Proc. Pennsylvania Pharm. Ass., 1907, p. 82.

Dohme and Englehardt report the assay of a sample of asafetida yielding 60 per cent of ash and 8 per cent of alcohol soluble matter.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 378.

Gausby, R. A., asserts that asafetida can not be procured of U. S. P. quality except in a small way, in selected tears, at a fancy price.—Proc. Pennsylvania Pharm. Ass., 1907, p. 74.

Gane, E. H., reports 47 samples examined. Eleven ranged from 47.1 per cent to 78.1 per cent alcohol soluble extract, with an ash content varying from 3.1 per cent to 38.6 per cent. The remaining 36 samples gave alcohol soluble extract of 23 per cent to 70 per cent, and an ash content of 11.7 per cent to 59.8 per cent.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 323.

Hankey, William T., asserts that asafetida U. S. P. before powdering will not meet requirements after powdering, as the drug has to be subject to a long period of drying with consequent loss of the volatile constituents and it is also necessary to add an inert material (usually magnesia) in order that it may stay in the powdered form. This naturally increases the ash above requirements and the continued drying reduces the alcohol soluble matter.—Proc. Pennsylvania Pharm. Ass., 1907, p. 71.

Patch, E. L., examined 7 samples ranging from 25 per cent to 38.6 per cent alcohol soluble extract.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 323.

Caspari, Chas. E. (com. on adulterations), examined 14 samples, none U. S. P. They varied from 16 to 39 per cent ash on ignition and were soluble in alcohol to the extent of from 10 to 65 per cent.—Proc. Missouri Pharm. Ass., 1907, p. 147.

Judd, Albert F., reports ash determinations on 10 samples of asafetida, the percentage of ash varying from 13.7 to 76.6 per cent, only one of the samples being below the 15 per cent of ash permitted by the U. S. P. VIII.—Proc. Pennsylvania Pharm. Ass., 1907, p. 259.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 7) report 4 specimens of powdered asafetida, from outside sources (labeled "Commercial") which contained large proportions of mineral matter, from 42 to 71 per cent of ash being found.

Philipp Röder (Jahresbericht, Wien, 1907, p. 77) reports on 4 samples of asafetida, only one of which exceeded the Ph. Austr. VIII

limitation for ash. This sample, however, was abnormally high, containing 24.38 per cent.

The inspectors of pharmacies report that powdered asafetida is always of inferior quality and generally yields from 30 to 40 per cent, some samples even as much as 75 per cent of ash in place of 10 per cent permitted by the pharmacopœia.—Ann. de pharm., Louvain, 1907, v. 13, p. 275.

Hellström, Arthur (Farmaceutiskt-Notisblad, 1907, pp. 175-183), reports on 30 samples of asafetida, only one of which corresponded to the general pharmacopœial requirement of 10 per cent of ash. He believes this requirement to be too stringent and proposes 20 to 25 per cent as the limit for an acceptable drug. He found asafetida having an ash content of from 4 to 39 per cent, and at least 50 per cent soluble in alcohol to have an acid number of from 20 to 40, saponification number from 98 to 112, and an ester number from 67 to 80.—Apoth. Ztg. Berl., 1907, v. 22, p. 864.

Bloyer believes this to be a good drug greatly neglected and well worthy of careful study; he gives some indications for its use.—Eclectic M. J. Cincin., 1907, v. 67, pp. 310-312.

Adams, E. O., suggests the use of asafetida in cases of functional indigestion accompanied by sensations, pulsations, and feeling of reversed peristalsis in stomach.—Tr. Am. Inst., Homœop., 1907, v. 63rd. session, p. 368.

ASPIDIUM.

Henkel, Alice, describes and figures *Aspidium filix-mas* Sw. and *Aspidium marginale* Sw., commonly known as male shield fern, sweet brake, knotty brake, basket fern, and evergreen wood fern. Found in rocky woods, the male shield fern ranging from Canada westward to the Rocky Mountains and Arizona.—Bull. Bur. Plant. Ind., U. S. Dept. Agric., 1907, No. 107, pp. 11-12.

Schneider, Albert, points out that *Aspidium filix-mas* does not do well in cultivation.—Pacific Pharm., San Francisco, 1907-1908, v. 1, p. 363.

Strong, M. A., (Rhodora 9:27, 28, 25 F. 1907) presents further information regarding the occurrence of *Dryopteris filix-mas* in Vermont.—Bull. Torey Bot. Club, Chicago, 1907, v. 34, p. 219.

Kramer, Henry, describes and compares the rhizomes of *Aspidium marginale* and *Osmunda claytoniana*.—Proc. Am. Pharm. Ass., 1907, v. 55, pp. 345-351.

Capelle, G., discusses the characteristics of *Aspidium filix-mas* and of related species and their differentiation.—Apoth. Ztg. Berl., 1907, v. 22, p. 433.

Cesar and Loretz (Geschäfts Ber., 1907, p. 88) discuss their proposed method for assaying extracts of aspidium for their filicin content and outline the process.

Blome, Walter H., (com. on adulterations) points out that very little male fern that is green, as it ought to be, is seen in the shops.—*Proc. Michigan Pharm. Ass.*, 1907, p. 69.

Gonnermann, M., discusses the decomposition of the active ingredients of aspidium by means of animal ferments. He reports experiments with Aspidin and Filmaron and concludes that these two substances are not markedly affected by either pepsin, pancreatin, or trypsin.—*Apoth. Ztg.*, Berl., 1907, v. 22, pp. 670–671.

Ashford and King studied the effects of various anthelmintics comparing the number of uncinariae expelled per dose of each agent. The ethereal extract and later a solid extract of aspidium were tried but proved of very little efficiency, which they were unable to explain, unless deterioration had occurred in the tropical climate.—*J. Am. M. Ass.*, 1907, v. 49, pp. 471–476.

ATROPINA.

Riedel's *Berichte* (Berlin, 1907, p. 66) points out that atropine does not readily precipitate with picric acid. With some care in the manipulation a satisfactory precipitate can be obtained that has a uniform melting point of 176°.

Warren and Weiss describe and figure atropine picrolonate and discuss the use of picrolonic acid as a reagent for atropine.—*Journ. Biol. Chem.*, N. Y., 1907, v. 3, p. 336.

Schmidt, Ernst, discusses the chemistry of atropine and its behavior with the halogen acids.—*Pharm. Post*, Wien, 1907, v. 40, pp. 771–772.

Troxell, H. L., (com. on adulterations) examined two samples, labeled atropine sulphate, which proved to be hyoscyamine sulphate, indicated by melting point, optical activity, and melting point of the gold salt.—*Proc. Maryland Pharm. Ass.*, 1907, p. 86.

Hausmann, W., reviews some of the available literature relating to the habituation of the organism to atropine.—*Ergeb. d. Physiol.*, 1907, v. 6, p. 99.

Guyot, M. R., reports a case of intoxication by a collyrium containing atropine and records finding traces of the alkaloid in the urine.—*Bull. Soc. de pharm. de Bordeaux*, 1907, v. 47, pp. 205–210.

Gratiot, H. B., (Iowa M. J., Des Moines, Nov.) discusses the comparative value of atropine and homatropine cycloplegia. He considers atropine the best cycloplegic, having many advantages over any other.—*J. Am. M. Ass.*, 1907, v. 49, p. 2122.

Buchanan, Drysdale T., discusses the treatment of shock, and asserts that when the patient is perspiring profusely he gives by "hyperdermiclyses" 1/200 grain of atropine, which almost instantly checks the sweating.—*Tr. Am. Inst., Homoeop.*, 1907, v. 63rd session, p. 618.

Additional references on the pharmacology and the use of atropine will be found in the Index Medicus and the J. Am. M. Ass.

AURANTII AMARI CORTEX.

An unsigned article quotes Stevens, Caldwell, and three manufacturers as giving the percentage of alcohol in the official fluid extract of bitter orange peel as 63, 64, 55, 55, and 80 per cent, respectively.—Drug. Circ., N. Y., 1907, v. 51, p. 319.

AURI ET SODII CHLORIDUM.

White, Edmund, describes gold chloride, gives tests to determine the percentage of gold present and the possible contamination, also calls attention to the fact that sodium aurochloride containing 49.5 per cent of metallic gold is sometimes sold as gold chloride.—Pharm. J. Lond., 1907, v. 25, p. 815.

BALSAMUM PERUVIANUM.

An unsigned news note points out that much of the balsam of Peru which is coming in at present via Hamburg or New York is practically innocent of natural Peru balsam, being composed chiefly of synthetic cinnamein, which, however, has often added to it exhausted tolu.—Chem. & Drug., Lond., 1907, v. 70, p. 227.

Cæsar and Loretz (Geschäfts. Ber., 1907, p. 11), discuss the economic conditions prevailing in connection with balsam of Peru and point out that the nitric-acid test is almost indispensable for demonstrating the identity and purity of this drug. (See also Pharm. Ztg., Berl., 1907, v. 52, p. 778.)

Evers, T., does not agree with the criticisms that have been offered by Cæsar and Loretz on so-called synthetic balsam of Peru and asserts that true natural balsam of Peru is not common and that much of the material that is obtainable is adulterated or at best manipulated to make it conform with the requirements of the pharmacopœia.—*Ibid.*, v. 52, pp. 828-829.

Cæsar and Loretz reply to Evers and reassert that the so-called synthetic balsam of Peru does not comply with the requirements of the pharmacopœia and that while it may be equally valuable from a therapeutic point of view its usefulness has not been established as yet.—*Ibid.*, v. 52, p. 860.

Krüer, Hero, discusses the controversy regarding natural and synthetic balsam of Peru and points out that a pharmacist is not justified in supplying anything but the article intended by the prescriber.—*Ibid.*, v. 52, p. 880.

Delphin, T., criticises the methods for testing balsam of Peru that have been proposed by Dieterich, Gehe & Co., Thoms, and others.

compares the results obtained by these several methods and outlines a modified process that he believes will give more satisfactory results.—*Svensk. farm. Tidskr.*, 1907, v. 11, pp. 421–423, 441–447, 468.

Frerichs, G., suggests that balsam of Peru should indicate a saponification number of 225, and should contain at least 56 per cent of cinnamein (benzoic acid benzyl ester and cinnamic acid benzyl ester). The saponification number of the cinnamein should be at least 238.—*Apoth. Ztg.*, Berl., 1907, v. 22, p. 13.

Cæsar and Loretz (*Geschäfts Ber.*, 1907, p. 77) discuss the properties of and the several tests for balsam of Peru. They give the following specific gravities required by various pharmacopœias: Ph. Germ., 1.140–1.150; Ph. Belg., 1.137–1.15; Ph. Ndl., 1.14–1.145; Ph. Japon., 1.135–1.15; Ph. Austr., 1.14–1.16; Ph. Helv., 1.135–1.15; Ph. Suec., 1.135–1.15; U. S. P., 1.14–1.15.

Gausby, R. A., reports seven lots examined. One sample assayed only 50 per cent cinnamein. Another proved to be an entirely spurious product containing very little or no genuine balsam.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 76.

Patch, E. L., asserts that the calcium hydroxide test is ambiguous and of questionable value. No two operators would guess alike as to the volume relations. He believes it should be adjusted by weight if used at all. The action of calcium hydroxide depends upon the proportion of acid and neutral resins present. Exposure to water bath would depend upon the style of vessel and temperature. Usually adding calcium hydroxide, the mixture stiffens without heating and rapidly becomes harder.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 323.

Hankey, W. T., examined 5 samples ranging in cinnamein from 42.9 per cent to 50.5 per cent. Acid number 66.3 to 75.3.—*Ibid.*, v. 55, p. 323.

Gane, E. H., says that artificial balsam is now extensively used in place of the natural article, which is scarce. The artificial has a nice appearance, and tests 64 per cent to 65 per cent cinnamein.—*Ibid.*, v. 55, p. 323.

Graham, Willard, reports on a lot of balsam of Peru which was rejected, as it contained an excess of acid resins and gave a test for rosin when tested by the U. S. P. VIII methods.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 236.

Evans Sons Lescher and Webb (*Analytical Notes*, 1907, 1908, p. 37) report a Peru balsam substitute which was labeled "Answers U. S. P. tests," and was found, upon the whole, to do so. The cinnamein test showed the presence of 57 per cent and most of the color and solubility tests were normal. On the other hand, nitric acid gave a permanent blue color with the petroleum ether residue and the presence of colophony was indicated by copper acetate. This was also

observed in a sample (obtained from a German source) which was represented as natural.

Philipp Röder (Jahresbericht, Wien, 1907, p. 30) reports that of five samples of balsam of Peru examined one contained too low an amount of cinnamein.

Perrot, E., notes a sample which did not approach a product of *Myroxylon peruiferum*; it was a mixture resulting from heating castor oil with benzoin.—Bull. d. sc. pharmacol. Par., 1907, v. 14, p. 350.

The inspectors of pharmacies point out that because of the comparatively high price this drug is frequently adulterated with alcohol, storax, gurjun balsam, or turpentine, and that great care is necessary to avoid sophistication.—Ann. de pharm., Louvain, 1907, v. 13, p. 276.

Porter, F. J. W., reports favorable results in the treatment of scabies with balsam of Peru.—Brit. M. J., 1907, v. 1, p. 744.

Hoffman, Lawrence H., cites a case in which nephritis followed the external application of balsam of Peru. Nothing could be found in the history of the case whereby the nephritis could be accounted for except the use of the balsam of Peru.—J. Am. M. Ass., 1907, v. 49, p. 2086.

BALSAMUM TOLUTANUM.

Delphin, T., presents a new method for testing balsam of tolu and outlines methods for determining the cinnamein content and the probable adulterants. He recommends that the ethereal solution of the sample be shaken out with normal alkali. The evaporated ethereal solution yields the cinnamein; the alkaline solution, the resin acids, and aromatic acids. Also asserts that the presence of 2 per cent of colophony may be detected by this method.—Svensk. farm. Tidskr., 1907, v. 11, pp. 33–35, 53–55, 77–82.

Gausby, R. A., reports the examination of a shipment of tolu composed of cans containing large pieces of red brick with enough of the melted balsam poured in to fill the cans and completely cover the bricks.—Proc. Pennsylvania Pharm. Ass., 1907, p. 76.

Perrot, E., says that the addition of foreign substances to this balsam is the result of ignorance on the part of pharmacists as to the real appearance of the pure product. Natural balsam of tolu is a gray mass, fluid, nontranslucent or only in thin layers, sometimes solid, while the commercial product is a beautiful transparent red, more or less dark. The latter is the result of a manipulation accompanied by the addition of resin in which colophane plays an important rôle.—Bull. d. sc. pharmacol. Par., 1907, v. 14, p. 350.

The inspectors of pharmacies assert that balsam of tolu but rarely complies with the requirements of the Pharmacopœia.—Ann. de pharm., Louvain, 1907, v. 13, p. 276.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 46) report the aromatic acids (as benzoic) estimated by saponification in ten samples as follows: Free from 8.28 to 19.0; combined from 12.7 to 21.0.

Gambe, J., discusses in his doctor's thesis (Montpellier) our knowledge of balsam of tolu and the tree which produces it, and in the second part the various processes for the preparation of the syrup; he considers the Codex formula defective and suggests a new process.—Abstr. in Bull. d. sc. pharmacol. Par., 1907, y. 14, p. 181.

Mittelbach, Wm., believes that the readoption of the 1870 formula for syrup of tolu is a very wise step. "We now have some use for the tincture of tolu."—Proc. Missouri Pharm. Ass., 1907, p. 132.

Beringer, George M., points out that the N. F. directions under soluble tincture of tolu yield a preparation that is not identical with the U. S. P. syrup of tolu.—Proc. New Jersey Pharm. Ass., 1907, p. 73.

Caldwell, Paul, says that one ounce of ethereal tincture of tolu contains 100 minims of ether and 76 per cent of alcohol.—Drug Circ., N. Y., 1907, v. 51, p. 205.

BALSAMUM TRAUMATICUM N. F.

Beringer, George M., points out that this appears to be an unnecessary conflict with or useless duplication of the U. S. P. compound tincture of benzoin.—Am. J. Pharm., Phila., 1907, v. 79, p. 362.

BELLADONNÆ FOLIA.

Remington, Joseph P., reports the following changes in strength: Belladonna leaf, *now* 0.3 per cent mydriatic alkaloids. Tincture of belladonna leaf, *now* 0.03 gm. alkaloids in 100 cc.—Am. J. Pharm., Phila., 1907, v. 79, p. 135.

Dohme and Englehardt point out that the standard for this drug has been reduced to 0.3 per cent, which, they think, was not at all necessary, as leaves with 0.45 per cent can easily be obtained.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 378.

Stscherbatscheff, D., outlines the history of the development of belladonna, the fructification, the germination of the seed, and the development of the young plants. He describes the fruit, the seed, and the root, and figures their structural characteristics.—Arch. d. Pharm., 1907, v. 245, pp. 48-53.

Schneider, Albert, points out that *Atropa belladonna* L., thrives well in the United States, where it has been cultivated experimentally and commercially in several places. The experiments are now being continued in California.—Pacific Pharm., San Francisco, 1907-8, v. 1, p. 415.

An editorial comments on the efforts that are being made in different parts of the country to cultivate *Atropa belladonna*, and calls

attention to the work done by Kilmer and Rippetoe.—*Am. Druggist*, N. Y., 1907, v. 51, p. 353.

An editorial reports that experiments which have been extending over a period of four years have proven that belladonna thrives well in certain portions of the State. The seed is slow to germinate (four to six weeks) and has a very low germinating power. Chemical tests show that the California plants are very rich in active constituents.—*Pacific Pharm.*, San Francisco, 1907-8, v. 1, p. 97. (See also p. 172.)

Lenton, Walter H., presents some observations on the cultivation of *Atropa belladonna* and asserts that under cultivation belladonna averages $4\frac{1}{2}$ to 5 feet in height, while the bulk of the wild plant is generally considerably shorter.—*Chem. & Drug. Lond.*, 1907, v. 71, p. 355.

Francis, John M., reports finding one sample of belladonna leaves which appeared to be botanically correct, but contained no alkaloid whatever. Another sample assayed only 0.1 per cent. On the other hand, he has recently seen one lot which assayed 0.48 per cent and another 0.57 per cent of alkaloids.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 66.

Rippetoe, J. R., determined the alkaloidal content in the leaf and root from belladonna plants during the first and second year growth in the Shenandoah Valley. The results are considered encouraging to cultivation.—*Am. J. Pharm.*, Phila., 1907, v. 79, p. 523.

Troxell, H. L. (com. on adulterations), says that belladonna leaves usually run very high in alkaloids, but numerous samples were found deficient in alkaloidal strength.—*Proc. Maryland Pharm. Ass.*, 1907, p. 86.

An editorial points out that belladonna yields one intensely active alkaloid, which is made by the chemistry of the man who works the belladonna. This substance—atropine—is intensely poisonous and energetic, but its use as yet is confined to local effect, principally for the eye. Chemists accept the statement that the alkaloidal structure in belladonna is a hyoscyamine compound, and not an atropine compound.—*Paint, Oil, and Drug. Rev.*, Chicago, 1907, v. 43, May 8, p. 25.

Cesar and Loretz (*Geschäfts Ber.*, 1907, pp. 25, 91) have compared the U. S. P. assay method for belladonna with their own and conclude that the U. S. P. method is more complicated and without any evident advantage over the method outlined by them in their "Bericht."

Puckner, W. A., reviews the 1906 literature relating to the estimation of mydriatic alkaloids in belladonna, hyoscyamus, and stramonium.—*Pharm. Rev.*, Milwaukee, 1907, v. 25, p. 306.

Kebler, Lyman F., reports a variation of from 0.356 to 0.242 per cent of alkaloids by the U. S. P. VIII method. By an aliquot part method the same drug gave, gravimetrically, from 0.362 to 0.409 per cent of alkaloids, and volumetrically 0.224 to 0.264 per cent.—Proc. Ass. Off. Agric. Chem. 24th Ann. Conv., p. 84 (Bull. Bur. Chem., U. S. Dept. Agric., 1908, No. 116).

Perrot, E., asserts that the French belladonna, of which the price is 1 fr. 20 per kilo., is replaced by the Italian (?) which costs 0 fr. 70 and which contains but a little of the mydriatic alkaloid.—Bull. d. sc. pharmacol., Par., 1907, v. 14, p. 349.

Peltriset, C. N., discusses the leaves of belladonna, stramonium, and hyoscyamus, characters and microscopic diagnosis. Two plates, nine figures.—*Ibid.*, v. 14, pp. 569–575.

Farwell, O. A., asserts that a sample of what purported to be belladonna leaves yielded negative results upon assay for alkaloids. The close inspection of the estimation of the sample proved it to be leaves of *Phytolacca decandra* Lin., which has long been used as an adulterant of belladonna.—Merck's Report, N. Y., 1907, v. 16, p. 220. (See also Drug. Circ., N. Y., 1907, v. 51, p. 459.)

Vanderkleed, Charles E., reports 18 assays of belladonna leaf, ranging from 0.145 to 0.491 per cent. He points out that the quality is generally very good and that there is no reason for reducing the standard from 0.35 to 0.30.—Proc. Pennsylvania Pharm. Ass., 1907, p. 87.

Blome, Walter H. (com. on adulterations), reports examination of 4 samples of belladonna leaves. Assayed from 0.275 to 0.5397 per cent of mydriatic alkaloids.—Proc. Michigan Pharm. Ass., 1907, p. 67.

Caspari, Chas. E. (com. on adulterations), examined 3 samples, all weak.—Proc. Missouri Pharm. Ass., 1907, p. 147.

Hankey, W. T., examined 10 samples, ranging from 0.230 to 0.516. Average, 0.334.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 323.

Gane, E. H., examined 16 lots, which varied from 0.20 to 0.43 per cent.—*Ibid.*, v. 55, p. 323.

Patch, E. L., examined 7 samples, ranging from 0.273 to 0.38 per cent.—*Ibid.*, v. 55, p. 324.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 9) found a consignment of belladonna leaves, which, although somewhat finely broken, had a bright green color and normal microscopical character, to be practically devoid of alkaloid. Two other lots contained 0.34 and 0.4 per cent and one, of English growth, 0.32 per cent. The alkaloid was extracted from the drug (in 90 powder) by ether and ammonia, and completed by the method given in the Pharmaceutical Journal, 21–5–04, p. 718.

The committee of reference in pharmacy points out that the unstandardized extract of belladonna has been found to vary in alkaloidal strength from 1.5 to 4.5 per cent, and that the extract standardized to 2 per cent of alkaloid might well take the place of both the present Ph. Brit. extracts of belladonna.—Chem. & Drug., Lond., 1907, v. 70, p. 587.

Bührer, C., points out that recently published pharmacopœias require from 1.15 to 2 per cent of alkaloid in extract of belladonna: The Ph. Ndl., 1.15; U. S. P., 1.4; Ph. Belg., and Ph. Hely., 1.5, and the Ph. Austr. 2 per cent. The Ph. Brit. revision commission proposes to require only 1 per cent.—Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich, 1907, v. 45, p. 419.

Greenish, Henry G., also points out the variations now existing.—Pharm. J., Lond., 1907, v. 24, p. 832.

Philipp Röder (Jahresbericht, Wien, 1907, p. 47) points out that the 2 per cent of alkaloid content required by the Ph. Austr. VIII for extract of belladonna is impracticable. He reports examining 7 samples which varied from 1.07 to 1.92 per cent.

Dohme and Englehardt point out that although the standard for belladonna leaves has been cut down to 0.3 per cent, the standard for the extract of the drug remains 1.4 per cent. As belladonna leaves by regular percolation frequently yield 25 per cent of extractive matter, an extract of required strength of these cases could not be obtained from leaves assaying as low as 0.3 per cent of total alkaloids.—Proc. Am. Pharm. Ass., 1907, v. 55, pp. 379–380.

Vanderkleed, Charles E., (com. on adulterations) reports the examination of one sample of extract of belladonna leaf which was artificially colored with aniline dye. For testing he suggests observing the color of the acid solution and its power to dye woollen cloth.—Proc. Pennsylvania Pharm. Ass., 1907, p. 85.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 8) report on the examination of 9 lots of belladonna leaf extract which assayed from 0.6 to 2.9 per cent of alkaloid.

Sayre, L. E., reports on a sample of tincture of belladonna which assayed 0.02583 gms. of alkaloid in 100 cc.—Bull. Kansas Bd. Health, 1907, p. 108.

Neil, D. R., discusses the physiological action and therapeutics of belladonna and of the belladonna alkaloids.—Merek's Arch., N. Y., 1907, v. 9, pp. 174–178.

The editor of the "Therapeutical Notes" states that belladonna is the best remedy for nocturnal enuresis in children.—N. York M. J., 1907, v. 85, p. 747.

Kinyon, C. B., suggests the use of belladonna during the intermenstrual period when the flow is apt to be too scanty in plethoric

women, with a characteristic flushed face and throbbing carotids.—Tr. Am. Inst Homœop., 1907, 63rd session, p. 384.

Rosenberger, A. S., points out that belladonna is a remedy often called for when a patient is taken down suddenly with an intense fever associated with chilly sensations.—*Ibid.*, 63rd session, p. 419.

A number of additional references on the use of belladonna will be found in the Index Medicus and the J. Am. M. Ass.

BELLADONNÆ RADIX.

Remington, Joseph P., reports that the U. S. P. VIII standard for belladonna root is *now* 0.45 per cent mydriatic alkaloids. Fluid extract of belladonna root *now* 0.4 gm. alkaloid in 100 cc.—Am. J. Pharm., Phila., 1907, v. 79, p. 135.

Rusby, H. H., asserts that there are tons and tons of belladonna root on the market which are of low grade and which can not be made to yield a preparation of standard strength. He also reports finding belladonna root deprived of its little rootlets and asserts that these rootlets are the part richest in alkaloid.—Proc. New York Pharm. Ass., 1907, p. 100.

Dohme and Englehardt assert that they have not found any belladonna root adulterated with poke root.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 378.

Rippetoe, John R., reports some assays of belladonna root and leaf cultivated in the Shenandoah Valley, Va., and describes the cultivation of the plants. A sample of leaf collected in July, when the plants were flowering, yielded 0.68 per cent of alkaloids; an average plant collected in October yielded 0.48 per cent; and a sample of root yielded 0.38 per cent alkaloids.—Am. J. Pharm., Phila., 1907, v. 79, pp. 523–524.

Kebler, Lyman F., reports that a series of comparative experiments gave from 0.370 to 0.494 per cent of mydriatic alkaloids by the U. S. P. VIII method of assay. By an aliquot part method the same drug gave from 0.516 to 0.530 per cent of alkaloids gravimetrically and from 0.384 to 0.423 per cent volumetrically.—Proc. Ass. Off. Agric. Chem., 1907, 24th Ann. Conv., p. 81 (Bull. Bur. Chem. U. S. Dept. Agric., 1908, No. 116).

Cæsar and Loretz (Geschäfts Ber., 1907, p. 99) outline their method for the assay of belladonna root and point out that the Ph. Austr. permits 6 per cent of ash in this drug and that the U. S. P. requirements for 0.5 per cent of alkaloid has been reduced to 0.45 per cent.

Dohme, A. R. L., discusses the substitution of scopolia for belladonna and points out that on the established pharmacopœial precedent it would require no stretch of imagination nor a twinge of conscience to class under the caption "belladonnæ radix" both belladonna and scopolia roots.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 504.

Caspari, Chas. E., (com. on adulterations) examined 3 samples of belladonna root; 1 satisfactory, 2 weak.—*Proc. Missouri Pharm. Ass.*, 1907, p. 147.

Gane, E. H., reports 3 lots examined ranging from 0.52 per cent to 0.68 per cent.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 324.

Patch, E. L., examined 3 lots, 0.33 per cent to 0.53 per cent.—*Ibid.*, v. 55, p. 324.

Sayre, L. E., reports on 7 assays of belladonna root which yielded from 0.18 to 0.70 per cent alkaloid. Average 0.44 per cent.—*Bull. Kansas Bd. Health*, 1907, p. 43.

Blome, Walter H., (com. on adulterations) reports that 5 samples of belladonna root assayed from 0.627 to 0.513 per cent of mydriatic alkaloids.—*Proc. Michigan Pharm. Ass.*, 1907, p. 67.

Troxell, H. L. (com. on adulterations), points out that on account of the scarcity of the root at present, it is claimed that from time to time adulterations with poke root occur.—*Proc. Maryland Pharm. Ass.*, 1907, p. 86.

Vanderkleed, Charles E., (com. on adulterations) reports 9 assays of belladonna root ranging from 0.110 to 0.618 per cent. He asserts that the standard of 0.450 is still high.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 87.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 9) examined 24 samples of belladonna root, mainly of continental origin, which tested between 0.1 and 0.58 per cent total alkaloid. The quality generally was much better than that of some former years, and highly dried, tarry specimens, as well as the excessively clean and apparently exhausted ones, were entirely absent.

Cesar and Loretz (*Geschäfts Ber.*, 1907, p. 44) report on 14 samples of belladonna root which varied from 0.159 to 0.548 per cent of alkaloids.

The New York State Board of Health, Eastern Branch, reports 12 samples examined, 3 deficient.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 324.

Naylor, W. A. H., reviews the U. S. P. assay for fluid extract of belladonna and points out that the amount of chloroform used for rinsing might be increased.—*Am. Druggist, N. Y.*, 1907, v. 50, p. 355.

Naylor and Chappel discuss the U. S. P. method of assay for fluid extract of belladonna and compare it with Bird's modification of the Ph. Brit. process.—*Pharm. J., Lond.*, 1907, v. 24, p. 393.

The Ph. Brit., Committee of Reference in Pharmacy points out that tincture of belladonna made from the leaf instead of the root would, of course, be totally different in appearance from the Ph. Brit. tincture. It should be standardized to 0.05 per cent of alkaloids (as at present).—*Chem. & Drug., Lond.*, 1907, v. 70, p. 587.

Wright, R., gives a formula and outlines a method for making chloroform of belladonna, containing from 60 to 70 per cent of the available alkaloids, and also outlines a method for the determination of the alkaloids in chloroform of belladonna.—Pharm. J., Lond., 1907, v. 25, p. 107.

BENZALDEHYDUM.

Murray, Benjamin L., points out that in the official assay of benzaldehyde "purified kerosene" is used. This he thinks is a new commodity and it stands in need of a list of "tests of purity and identity" by which it may be known.—Merck's Report, N. Y., 1907, v. 16, p. 248.

Wright, E. S., experienced difficulty in determining the exact end reaction and in obtaining concordant results in the assay of benzaldehyde. Several modifications that were tried proved unsatisfactory.—Am. J. Pharm., Phila., 1907, v. 79, p. 366.

BENZINUM.

Rakusin, M., discusses the production and the source of petroleum benzin, its uses and properties, and its storage and transportation.—Chem. Ztg., Cöthen., 1907, v. 31, pp. 3-6.

Laszlo, Ernö, elaborates further on the contribution by Rakusin on the manufacture and properties of petroleum benzin.—*Ibid.*, 1907, v. 31, pp. 356-358.

Marshall, John, presents a note on a source of error in the use of a certain petroleum ether as an extracting medium. This liquid after being exposed to diffused sunlight and air in a corked storage flask for varying periods of time was found to leave cosmoline-like residues, the nature of which was not determined.—Am. J. Pharm., Phila., 1907, v. 79, pp. 315-317.

An abstract from Chem. Zeit., 1907, 31, 3, points out that in the naphtha industry "benzine" includes all fractions of petroleum boiling below kerosene (lamp petroleum) such as petroleum ether, ligroin, rigolin, and gasoline. Baku benzine is sold at a higher price than Grosny benzine, because it contains a much larger percentage of low boiling oil, as is seen from the following comparison:

	Baku benzine.	Grosny benzine.
	<i>Per cent.</i>	<i>Per cent.</i>
Below 50° C.	5.0	0.6
From 50° C. to 75° C.	47.9	13.7
From 75° C. to 100° C.	38.0	29.7

Light benzine should have a specific gravity of not more than 0.717 at 15°, and heavy benzine 0.725 to 0.729 at 15° C. It should be

neutral, evaporate rapidly from filter paper without leaving any unpleasant smell, and should contain 90 per cent of oil boiling below 95° C., and not more than 5 per cent boiling above 100°.—Pharm. J. Lond., 1907, v. 24, p. 107.

Blome, Walter H. (com. on adulterations), reports that some lots have a peculiar odor and a high specific gravity.—Proc. Michigan Pharm. Ass., 1907, p. 68.

Alcock, F. H., uses benzin (a cheap variety known as mineral naphtha, the characters of which he describes) for the preservation of solutions of albumin and of starch.—Year Book of Pharmacy, Lond., 1907, p. 398.

Several references on the toxicology of petroleum benzin will be found in the Index Medicus.

BENZOINUM.

Nelson, Burt E., describes the origin of benzoin, calls attention to the appearance of the drug and of the powder, and enumerates the several constituents contained therein.—Merck's Report, N. Y., 1907, v. 16, p. 220.

An abstract (from Teysmannia) gives some particulars as to the manufacture of benzoin in Sumatra.—Canad. Pharm. J., Toronto, 1907-8, v. 41, p. 315.

Bernegau, Henry, points out that there are four kinds of benzoin on the market: Siam, Sumatra, Penang, and Palembang varieties, of which the first two are most frequently seen in our market. He also outlines some of the characteristics of these two varieties of benzoin.—Am. J. Pharm., Phila., 1907, v. 79, p. 553.

Southall's Report (1907, 7) gives the following data as a mean of 25 samples of Sumatra benzoin examined during the past year: Solubility in alcohol 90 per cent, 69.2; lowest, 58.3; highest, 77.5; free balsamic acids calculated as $\text{HC}_7\text{H}_5\text{O}_2$, 8.77; lowest, 5.31; highest, 11.55. Combined balsamic acids as above, 11.26; lowest, 8.9; highest, 12.35. One sample of Siam benzoin gave: Solubility in alcohol 90 per cent, 93.3; free balsamic acids as above, 2.59; combined balsamic acids, 32.2.—Year Book of Pharmacy, Lond., 1907, p. 24.

Gausby, R. A., points out that the U. S. P. requires Sumatra benzoin to be wholly soluble in alcohol. Most cases of nice-appearing benzoin contain from 10 to 40 per cent of foreign matter, consisting chiefly of bark. Four lots ran as follows: Alcohol soluble matter from 71.22 to 85.6 per cent; ash, from 1.20 to 2.3 per cent. He reports on 1 lot of selected Siam benzoin tears assaying 97.9 per cent alcohol soluble matter; 0.17 per cent of ash.—Proc. Pennsylvania Pharm. Ass., 1907, p. 75.

Hankey, William T., has experienced considerable difficulty in securing benzoin of proper grade.—*Ibid.*, 1907, p. 71.

Dohme and Englehardt report on a shipment of benzoin which was rejected on account of yielding 28 per cent of ash. *Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 378.

Troxell, H. L. (com. on adulterations), found a sample that was soluble to the extent of only 50 per cent in alcohol and gave 30 per cent ash.—*Proc. Maryland Pharm. Ass.*, 1907, p. 86.

Evans Sons Lescher and Webb (*Analytical Notes*, 1907, 1908, p. 8) give their results from 5 samples of benzoin as follows: Three Sumatra samples from 5.7 to 8.2 per cent of free benzoic acid, and from 9 to 10 per cent of combined benzoic acid; insolubility in 90 per cent alcohol from 25 to 32 per cent. Two Siam samples examined contained each 4.2 per cent of free benzoic acid, 22, 23 per cent of combined benzoic acid, and 1 and 6 per cent insoluble in 90 per cent alcohol.

Gilmour, J. P., reports the examination of 6 samples of Siam benzoin, none of which complied with Ph. Brit. requirements. He found 10 per cent insoluble residue.—*Year Book of Pharmacy*, Lond., 1907, pp. 446–455.

The inspectors of pharmacies assert that benzoin varies enormously in its composition, some of the available drug being very inferior and mixed with vegetable and mineral substances.—*Ann. de pharm.*, Louvain, 1907, v. 13, p. 276.

Philipp Röder (*Jahresbericht*, Wien, 1907, p. 109) reports on 17 samples of benzoin, which varied from 0.08 to 3.79 per cent of ash and from 0.99 to 24.62 per cent of material insoluble in alcohol. Eight of the 17 samples did not comply with the Ph. Austr. VIII requirements.

Thornewill, A. R., presents some figures obtained in the ordinary laboratory routine of testing benzoin used for making the tincture in order to arrive at the allowance necessary to make for insoluble matter. Four samples of Sumatra benzoin varying from 13.35 to 18.35 per cent of matter insoluble in 90 per cent alcohol are reported on.—*Chem. & Drug. Lond.*, 1907, v. 71, p. 824.

An abstract from the *Chemist and Druggist* points out that compound tincture of benzoin is a very old favorite. It is specified in the schedule to the medicine stamp act, 1812, and the year 1744 is given as the date when Robert Turlington secured his patent for the balsam. The official report of the patent and the copy of a formula published by the Philadelphia College of Pharmacy seventy years ago are reproduced.—*Drug Topics*, N. Y., 1907, v. 22, p. 200–201.

Evans Sons Lescher and Webb (*Analytical Notes*, 1907, 1908, p. 10) found the extractive matter in compound tincture of benzoin

(after fixing volatile acids with magnesia) to range from 18.7 to 20 per cent. These figures have been obtained from over 30 samples.

Schmidt, Valentine, outlines a simple way of mixing benzoin, glycerin, and rose water: Mix the glycerin and rose water in a bottle, shaking it well. Then pour the tincture of benzoin very slowly and carefully on the top of the mixture, cork it, take the bottle by the neck, and invert it once or twice slowly without shaking it. The result is a perfectly white emulsion, without separation or conglomeration of resin, and perfectly stable.—Pacific Pharm., San Francisco, 1907-8, v. 1, p. 346.

BENZOSULPHINIDUM.

Schweitzer, Hugo, outlines the history of the accidental discovery of saccharin and its introduction into commerce.—Am. Druggist, N. Y., 1907, v. 50, p. 194.

Bigelow and Howard (The Caterer) outline a method for the detection of saccharin and point out that the only other substance having the sweet taste which may be found in food is sugar, and that this is not soluble in chloroform.—Mdl. Drug. Columbus, 1906-7, v. 8, p. 493.

Tagliavini, Achille, (Bolletin, Chimic. Farmaceut., Fasc. 17, p. 646) discusses the determination of saccharin in wine. He recommends the use of toluol as the solvent in preference to ethyl ether or petroleum benzin.—Apoth. Ztg., Berl., 1907, v. 22, p. 890.

Wilbert, M. L., believes that the use of saccharin in the N. F., as a sweetening agent should be discouraged as there is no excuse for its use in medicinal preparations.—Am. J. Pharm., Phila., 1907, v. 79, p. 211.

La Wall, Charles H., deplores the use of saccharin in N. F. preparations as its inclusion will be taken advantage of by persons desirous of evading the law prohibiting the use of this material in foods.—*Ibid.*, v. 79, p. 245.

Beringer, George M., regrets the introduction into the N. F. of a new "hobby" in the form of saccharin and suggests that it is an abuse that should be discontinued.—*Ibid.*, v. 79, p. 361.

Kebler, Lyman F., asserts that saccharin is generally employed as a sweetening agent and its use is largely of a deceptive character, because the consumer usually believes that when he is eating a food product sweetened with this chemical that the sweetening is due to some form of sugar. He thinks that inasmuch as deceptions and misrepresentations of all kinds are prohibited under the food and drugs act, the presence of this chemical should be declared upon the label.—J. Frankl. Inst. Phila., 1907, v. 163, p. 310.

Ripperger, Albert A., states that the replies to a number of letters from practitioners show overwhelmingly that saccharin is not in-

jurious to health and can be employed safely for sweetening foods and drinks of diabetics.—N. York, M. J., 1907, v. 86, p. 67.

Blome, Walter H., (com. on adulterations) reports that soluble saccharin which responded to benzoic-acid test with ferric chloride, was much more soluble than the official article and upon incineration left 29.9 per cent of ash.—Proc. Michigan Pharm. Ass., 1907, p. 70.

BERBERIS.

Henkel, Alice, describes and figures *Berberis aquifolium* Pursh., also known as Rocky Mountain grape, holly-leaved barberry, California barberry, trailing Mahonia, and Oregon grape.—Bull. Bur. Plant Ind., U. S. Dept. Agric., 1907, No. 107, pp. 36–37.

Gane, E. H., points out that berberis yields from 6 to 8 per cent of extractive to the official menstruum and that the resulting fluid extract contains approximately 38.56 per cent by weight or 45.7 per cent by volume of absolute alcohol.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 319.

Schneider, Albert, points out that California Indians have long used a decoction of the root of *Berberis aquifolium* as a tonic. The bark is also used medicinally.—Pacific Pharm., San Francisco, 1907–8, v. 1, p. 416.

Johnson, E. E., points out that *Berberis aquifolium*, Pursh., was used as an alterative by the Indians and early Spanish settlers of California though it was not highly praised.—Pacific Pharm., San Francisco, 1907–8, v. 1, p. 413.

Shedd, P. W., points out that berberis is well suited to that sub-acute condition of ill health known as the bilious diathesis with a tendency to renovesical disorders and calculi in gall bladder, kidney, or bladder.—Hahnemann. Month., Phila., 1907, v. 42, pp. 915–918.

BETANAPHTHOL.

Boos, J. V. D., (Pharm. Weekbl., 1907, v. 44, p. 1478) believes that the Ph. Ndl. IV test for α -naphthol in β -naphthol is a practicable one and that the criticism by Schoorl is not justified.—Jahresb. d. Pharm. Göttingen., 1907–8, v. 42, p. 241.

Ashford and King discuss the treatment of uncinariasis, and state that betanaphthol was found to be useful but they prefer thymol. Both are unpleasant to take. The presence of food in the bowel seemed to interfere with the action of betanaphthol more than it did with thymol. A comparison is made of the number of uncinariae expelled by doses of different agents.—J. Am. M. Ass., 1907, v. 49, pp. 471–476.

The contributor of an unsigned note quotes J. Codina Castellvi in the September *Revue de Méd.*, in regard to the favorable results following the use of betanaphthol in ankylostomiasis. He states that it

is harmless, remarkably effective and free from by-effects.—*Ibid.*, v. 49, p. 2007.

BISMUTHI CITRAS.

Lyons, A. B., points out that the ignition of an organic salt of bismuth would tend to reduce at least a portion of any contained arsenic to the metallic state when it would surely be volatilized.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 64.

BISMUTHI ET AMMONII CITRAS.

Blome, Walter H., (com. on adulterations) reports a sample of ammonium and bismuth citrate, which was acid in reaction; should be neutral or slightly alkaline.—*Proc. Michigan Pharm. Ass.*, 1907, p. 67.

The Eclectic Review considers liquor bismuthi et ammonii citras a remedy of great usefulness in the treatment of diarrhœa, and especially valuable in that caused by undigested food.—*Eclectic M. J. Cincin.*, 1907, v. 67, p. 543.

BISMUTHI SUBCARBONAS.

Frerichs, G., points out that because of the possible variation in the composition of the subsalts of bismuth the pharmacopœia should include a process for their manufacture.—*Apoth. Ztg.*, Berl., 1907, v. 22, p. 238.

Blome, Walter H., (com. on adulterations) reports that a sample of bismuth subcarbonate contained a trace of arsenic and of alkalies.—*Proc. Michigan Pharm. Ass.*, 1907, p. 67.

BISMUTHI SUBGALLAS.

Caspari, Chas. E., (com. on adulterations) examined 9 samples of bismuth subgallate, none U. S. P.; 9 contained nitrate.—*Proc. Missouri Pharm. Ass.*, 1907, p. 143.

BISMUTHI SUBNITRAS.

White, Edmund, describes bismuth subnitrate, and outlines a number of tests that must be complied with by an article used as a chemical reagent.—*Pharm. J. Lond.*, 1907, v. 25, p. 104.

Lücker, Edward, points out that ammonia is a frequently found contamination in bismuth subnitrate. He believes that the titration method proposed by Thoms for the determination of the composition of bismuth subnitrate is a satisfactory one.—*Apoth. Ztg.*, Berl., 1907, v. 22, p. 1045.

Caspari, Chas. E., (com. on adulterations) examined 67 samples, none U. S. P.; all contained chloride.—*Proc. Missouri Pharm. Ass.*, 1907, p. 143.

Patch, E. L., examined 19 lots which assayed from 80 per cent to 84.15 per cent.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 324.

Blome, Walter H., reports 4 samples of bismuth subnitrate, all satisfactory.—Proc. Michigan Pharm. Ass., 1907, p. 67.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 11) state that although this salt is almost always free from objectionable impurities they often find it to yield distinct traces of calcium, chlorides, and sulphates.

Pfahler, G. E., discusses the physiologic and clinical observations on the alimentary canal by means of the Roentgen rays, and states that the bismuth-kefir mixture, containing bismuth subnitrate, is the best medium to render the alimentary canal opaque.—J. Am. M. Ass., 1907, v. 49, pp. 2069–2074.

Böhme, A., discusses the nitrite poisoning resulting from the internal administration of bismuth subnitrate and reports some experimental work demonstrating the possibility of nitrite poisoning.—Arch. f. exper. Path. u. Pharmacol., Leipz., 1907, v. 57, pp. 441–453.

The editor of the "Therapeutical Notes" calls attention to an article by G. Lion (in *Archives des maladies de l'appareil digestif*, Aug. through *La Tribune médicale*, Aug. 31) on the bismuth subnitrate cure in affections of the stomach, in which attention is called to the fact that the method was esteemed by Trousseau and others of the last century.—N. York M. J., 1907, v. 86, p. 744.

BISMUTHI SUBSALICYLAS.

Philipp Röder (Jahresbericht, Wien, 1907, p. 32) reports that 1 of 3 samples of bismuth salicylate examined contained appreciable quantities of hydrochloric acid.

Gilmour, J. P., examined 8 samples, all of which contained free salicylic acid.—Year Book of Pharmacy, Lond., 1907, pp. 446–455.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 11) examined 5 samples of bismuth salicylate which contained from 62.17 to 64.9 per cent of bismuth oxide. The principal impurities found were free salicylic acid and traces of chloride and sulphate.

Steele, J. D., is reported to have said that he had decreased the bacteria present in normal intestines with bismuth salicylate and with betanaphthol, but in diseased intestines the normal resistance seemed to be diminished and antiseptics may have an opposite effect from that desired. In one case of gastro-intestinal disturbance the bacteria were found to be increased. He thinks that the diet affords the best means of regulating the intestinal flora.—J. Am. M. Ass., 1907, v. 48, p. 1807.

BISMUTHUM.

Murray, Benjamin L., in discussing the tests for the several bismuth salts, points out that the Pharmacopœia includes no satisfactory test for purity.—Merck's Report, N. Y., 1907, v. 16, p. 248.

Caldwell, B. P., calls attention to the possibility of mistaking a bismuth stain for one caused by arsenic, and points out the importance of providing for the arrest of particles being carried over from the generator of the Marsh apparatus.—Am. J. Pharm. Phila., 1907, v. 79, pp. 201-203.

Moser, L., presents a critical study of the several volumetric determination methods for bismuth and concludes that many of the methods that have been proposed from time to time are quite useless, and that the only practicable method is the modification of the chromate method as outlined by Rupp and Schaumann.—Ztschr. f. anal. Chem. Wiesb., 1907, v. 46, pp. 223-241.

Ehrenfeld, R., discusses the volumetric determination of bismuth and records some experiments with the quantitative precipitation of bismuth, from solutions in weak nitric acid by means of sodium phosphate.—*Ibid.*, v. 46, pp. 710-711.

Howards & Sons consider that the amounts of Bi_2O_3 obtained by the ignition test in bismuthum subcarbonicum, bismuthum subgallium, and bismuthum salicylicum are all too low a standard, there being no difficulty in preparing commercial articles having, respectively, 89 to 91 per cent. 53 per cent and 64.5 per cent of Bi_2O_3 .—Chem. & Drug. Lond., 1907, v. 71, p. 693.

Hutchins and Lanher conclude that while bismuth can exist in a higher state of valence than three with oxygen, thus far the halogens have not been combined with bismuth in any higher ratio than that of the valence of three.—J. Am. Chem. Soc., 1907, v. 29, pp. 31-33.

A news note points out that the production of bismuth in the United States for 1906 amounted to a total of 8,324 pounds, less than 4 per cent of the quantity imported.—Oil, Paint, and Drug Reporter, New York, 1907, v. 72, December 2, p. 16.

BROMOFORMUM.

Caspari, Chas. E., (com. on adulterations) examined 4 samples of bromoform; 1 satisfactory, 3 contained bromides.—Proc. Missouri Pharm. Ass., 1907, p. 145.

BROMUM.

Gehe & Co. (Handels-Bericht, 1907, p. 64) discuss the production of bromine in several countries and give a table showing the exchange of this article between Germany and the United States during the years 1903 to 1906, inclusive.

White, Edmund, describes bromine, outlines tests for iodine and chlorine, organic compounds and sulphates, and calls attention to the trade varieties of bromine.—Pharm. J. Lond., 1907, v. 25, p. 104.

Escot, E. Pozzi, (Annal. de Chim. Analyt., 12, 1907, 319) describes a method for the detection of traces of bromine with the aid of the microscope.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 260.

Clarke, F. W., in the report of the international committee on atomic weights, cites Baxter's determinations, which are based upon the antecedent values $\text{Ag}=107.93$ and $\text{Cl}=35.473$. Eighteen syntheses of silver bromide gave, in mean, $\text{Br}=79.953$. Thirteen experiments upon the conversion of AgBr into AgCl gave $\text{Br}=79.952$.—J. Am. Chem. Soc., 1907, v. 29, p. 107. (See also p. 251.)

Hinrichs, Gustavus D., discusses the remarkably concordant results of Baxter on the atomic weight of bromine.—Compt. rend. Acad. d. Sc. Par., 1907, v. 144, pp. 973-975.

BUCHU.

An unsigned news note discusses a false buchu that has appeared in the London market. There is little doubt that the drug is derived from *B. pulchella*, a shrub 3 or more feet high, much branched, with slender twigs. The leaves are ovate, with a thickened recurved margin upon which oil glands can be readily discerned, and are minutely ciliate or downy at the base. The habitat of the plant is given as between the Cape and Drakenstein, near French Hoek, and the Paardeberg, Table Mountain, Dutoitskloof, and Witsenberg. The Hottentots are stated to powder the leaves with stones, which they mix with fat and apply to the body as a perfume.—Chem. & Drug., Lond., 1907, v. 71, p. 702.

Holmes, E. M., calls attention to a new variety of buchu leaves recently offered in the London market. The leaf is probably derived from *Barosma pulchella*, a species nearly alike to the official buchu.—Pharm. J. Lond., 1907, v. 25, p. 598.

An unsigned article quotes Stevens, Caldwell, and three manufacturers as giving the percentage of alcohol in the official fluid extract of buchu as 70, 72, 65, 65, and 80 per cent, respectively.—Drug. Circ., N. Y., 1907, v. 51, p. 319.

Gane, E. H., points out that buchu yields an average of 21 per cent of extractive to the official menstruum, and that the resulting fluid extract contains approximately 50.8 per cent by weight or 58.6 per cent by volume of absolute alcohol.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 319.

CAFFEINA.

Schmidt, Ernst, presents a further study on the chemistry of xanthin bases and some of the derivatives of theobromine.—Arch. d. Pharm., 1907, v. 245, pp. 389, 398.

Seidell, Atherton, contributes a paper on the solubility of caffeine.—*J. Am. Chem. Soc.*, 1907, v. 29, pp. 1088-1091.

Gordin, H. M., reviews the progress in the chemistry of caffeine during the year 1906.—*Pharm. Rev.*, Milwaukee, v. 25, p. 179.

Puckner, W. A., reviews the literature relating to the estimation of alkaloid in coffee, guarana, and kola.—*Ibid.*, v. 25, p. 321.

Sayre, L. E., describes coffee, its standardization and possible application in pharmacy; also gives the ash determination in a number of varieties of coffee.—*Merck's Report*, N. Y., 1907, v. 16, pp. 61-63.

Weevers, Th., (*Annales du Jardin botanique de Buitenzorg*, ser. ii, vol. vi) says that xanthin derivatives were found in all parts except the roots of *Thea assamica* and *Coffea arabica*, but only in the early vegetative stages of *Coffea stenophylla* and *Cola acuminata*. From a comparison of the quantities obtained in young and maturing leaves, also in leaves placed in air devoid of carbon dioxide, the author concludes that these substances are formed as secondary products in the breaking down of proteins, and are subsequently absorbed in protein synthesis; in the seeds they are plentiful, forming a nitrogenous reserve.—*Pharm. J. Lond.*, 1907, v. 25, p. 315.

Swabe, Willmar Jun., discusses the chemistry of pseudotheobromine and its relation to theobromine and theophyllin.—*Arch. d. Pharm.*, 1907, v. 245, pp. 389-405.

French, J. M., discusses caffeine, its sources and uses, and reviews its physiological action at some length.—*Merck's Arch.*, N. Y., 1907, v. 9, pp. 208-210.

Caspari, Chas. E., (com. on adulterations) examined 14 samples of caffeine: 12 satisfactory: 2 contained other alkaloids.—*Proc. Missouri Pharm. Ass.*, 1907, p. 143.

Rivers and Webber discuss the action of caffeine on the capacity for muscular work. They record a number of experiments and conclude that while they confirm the observations of previous experimenters that caffeine produces an increase in the capacity for muscular work, they have also been able to provide definite evidence of the presence of a double action on the part of caffeine, which they describe at some length.—*J. Physiol.*, Lond., 1907-8, v. 36, pp. 33-48.

Friedländer, Richard, discusses the use of caffeine as a cardiac remedy and reviews some of the literature relating to its use.—*Therap. Monatsh.*, Berl., 1907, v. 21, pp. 178-179.

Additional references on the use of caffeine will be found in the *Index Medicus* and the *J. Am. M. Ass.*

CALAMUS.

Henkel, Alice, describes and figures *Acorus calamus* L., commonly known as sweet cane, sweet grass, sweet myrtle, sweet rush, sweet sedge, sweet segg, sweetroot, cinnamon sedge, myrtle flag, myrtle

grass, myrtle sedge, and beewort.—Bul. Bur. Plant Ind., U. S. Dept. Agric., 1907, No. 107, p. 16.

An unsigned article quotes Stevens, Caldwell, and three manufacturers as giving the percentage of alcohol in the official extract of calamus as 71, 72, 65, 85, and 65 per cent, respectively.—Drug. Circ., N. Y., 1907, v. 51, p. 319.

CALCII BROMIDUM.

Murray, Benjamin L., points out that the reaction of calcium bromide is best taken in 1 to 20 solution. No strength is specified at present.—Merck's Report, N. Y., 1907, v. 16, p. 248.

Patch, E. L., examined one sample assaying 97.8 per cent and containing a trace of bromate.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 324.

Blome, Walter H., (com. on adulterations) reports on 2 samples of calcium bromide. One contained a little barium.—Proc. Michigan Pharm. Ass., 1907, p. 67.

CALCII CARBONAS PRÆCIPITUS.

White, Edmund, describes calcium carbonate, outlines a number of tests to which an article suitable for use as chemical reagent must comply, and describes the available trade varieties.—Pharm. J. Lond., 1907, v. 25, p. 104.

Blome, Walter H., reports that heavy precipitated chalk always contains iron, aluminum, and phosphates.—Proc. Michigan Pharm. Ass., 1907, p. 67.

Philipp Röder Wien, reports on 9 samples of precipitated calcium carbonate, 5 of which complied with the Ph. Austr. VIII requirements, while the remaining 4 were contaminated with sulphates and alkalies.—Pharm. Post, Wien, 1907, v. 40, p. 323.

Evans Sons Lescher and Webb (Analytical Notes, 1907-8, p. 12) report many specimens which were heavily contaminated with iron and aluminum. In one case only they discovered a heavy arsenical contamination. They believe this sample was most probably a by-product of some manufacturer.

Netter, Arnold, discusses the medical applications of the antitoxic power of the salts of calcium and their employment in albuminuria.—Compt. Rend. Soc. de biol., Par., 1907, v. 62, pp. 329-331.

He presents a further note on the efficacy of calcium salts in the treatment of urticaria, acute œdema, chilblains, and pruritis.—*Ibid.*, v. 62, pp. 462-465, 572-575.

Stewart, W. R., points out that "calcarea carb." is best suited to the case that is fair, fat, and flabby, perspires about the head, with low temperature of body and extremities.—Tr. Am. Inst. Homœop., 1907, 63d session, p. 495.

Blackwood, A. L., points out that "calcareo carbonica" is indicated in cases where metabolism is imperfect.—*Ibid.*, p. 486.

Clark, B. J., points out that "calx carb." is a valuable remedy in rachitis and one whose symptomatology is well known.—*Ibid.*, p. 476.

CALCII CHLORIDUM.

White, Edmund, describes crystallized calcium chloride and outlines the tests for securing an article suitable for use as a chemical reagent.—*Pharm. J. Lond.*, 1907, v. 25, p. 105.

Netter, Arnold, discusses the good effects of the administration of calcium chloride in a variety of conditions.—*Compt. rend. Soc. de biol., Par.*, 1907, v. 62, pp. 376-379; pp. 632-634. See also *ibid.*, v. 63, pp. 457-459; pp. 465-466; pp. 581-583; *J. de pharm. et de chim. Par.*, 1907, v. 26, p. 188.

Robertson, Illmen, and Duncan, in the report of a comprehensive study of the factors influencing the coagulation of the blood, present some observations on the use of calcium chloride and other salts of calcium. They conclude that the clinical employment of the calcium salts has no direct or invariable effect on the coagulation time of the blood, either in large doses one hour after its administration or in small or large doses at any subsequent period, even extending over two or more weeks.—*Tr. Am. M. Ass., Sec. Pharm. and Therap.*, 1907, p. 51-57.

Russell, W. B., states that he treated a case of purpura with calcium chloride which proved rapidly effective.—*Brit. M. J.*, 1907, v. 1, p. 199.

For additional references on the use of calcium chloride see the *Index Medicus* and the *J. Am. M. Ass.*

CALCII HYPOPHOSPHIS.

Sayre, L. E., reports finding phosphates and sulphates in calcium hypophosphite.—*Bull. Kansas Bd. Health*, 1907, p. 13.

Blome, Walter H., (com. on adulterations) reports 6 samples of calcium hypophosphite. One had a trace of calcium sulphate.—*Proc. Michigan Pharm. Ass.*, 1907, p. 67.

CALCII PHOSPHAS PRÆCIPITATUS.

Blome, Walter H., (com. on adulterations) reports on 2 samples of calcium phosphate which contained considerable amounts of chloride.—*Proc. Michigan Pharm. Ass.*, 1907, p. 67.

Caspari, Chas. E., (com. on adulterations) examined 10 samples; all contained large excess of chloride; 2 contained arsenic.—*Proc. Missouri Pharm. Ass.*, 1907, p. 145.

Evans Sons Lescher and Webb (*Analytical Notes*, 1907-8, p. 13) still find iron, copper, sodium chloride, and chiefly lead in calcium

phosphate. Iron is often present in objectionable quantities, and they have found up to 4 per cent of sodium chloride.

A distinct arsenical contamination was noticed in two samples. All of these impurities are likely to cause untoward results, especially when the substance is used as a filtering medium.

Blackwood, A. L., points out that "calcareo phosphorica" is indicated in cases of defective nutrition.—Tr. Am. Inst. Homœop., 1907, 63rd session, p. 486.

CALCII SULPHAS EXSICCATUS.

An article abstracted from Marco Pedrotti's "Der Gips und seine Verwendung," discusses the widespread use of gypsum, its introduction by the Egyptians of old, and its continued use to the present time.—Sc. Am. Suppl., N. Y., 1907, p. 63, pp. 26033-26034.

De Forcrand (Bull. soc. chim. Montpellier, 1906, 35, pp. 781-790) reports the results of researches on plaster of Paris and describes several forms of calcium sulphate which he recognizes.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 146.

Davis, W. A., discusses the nature of the changes involved in the production and setting of plaster of Paris, and records a number of experiments. This article is illustrated with curves showing the nature of the changes occurring during dehydration of gypsum and the subsequent recrystallization with water.—J. Soc. Chem. Ind., Lond., 1907, v. 26, pp. 727-738.

Evans Sons Lescher and Webb (Analytical Notes, 1907-8, p. 13) have proved calcium sulphate to be practically free from arsenium on several occasions.

CALUMBA.

Feist, K., reviews the literature and discusses the chemistry of the alkaloids of calumba.—Pharm. Post., Wien, 1907, v. 40, pp. 659-660.

Puckner, W. A., calls attention to the work by Gadamer and Günzel in the study of the alkaloid content of calumba.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 323.

Feist, K., presents a contribution to our knowledge of the alkaloids and bitter principles of calumba, in the course of which he reviews the origin and history of the drug and also the work that has been done in the separation and identification of the several alkaloids it contains. He records his own experiments at some length.—Arch. d. Pharm., 1907, v. 245, pp. 586-637. See also Ztschr. d. Allg. österr. Apoth.-Ver., Wien, 1907, v. 45, p. 137.

Taylor, S., reports on the examination of a small sample of sliced root which had been detected mixed with calumba root in small

percentage. The root is described and figured.—Pharm. J. Lond., 1907, v. 25, p. 121.

Ulrich, Th., reviews the work that has been done on the constituents of calumba root, the production of calumbin, the properties of calumbin, the composition of the substance, and the action of several reagents on the substance.—Ztschr. d. Allg. österr. Apoth.-Ver., Wien, 1907, v. 45, pp. 87–89.

Parker, R. H., presents some observations on tincture of calumba made from true and suspected calumba root. He also asserts that a tincture of calumba prepared from the cortical portion of the root contains the bulk of the active principles, while a tincture prepared from the decorticated portion is pale and deficient in bitterness.—Pharm. J. Lond., 1907, v. 25, pp. 181–182.

Niece, Frederic E., outlines a color reaction for testing the identity of tincture of calumba. He also suggests determining the extract content.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 481.

CALX.

White, Edmund, asserts that the most suitable form of lime for use as a reagent is obtained by heating clean selected pieces of marble. He describes the physical properties of this article, gives tests, and discusses the available trade varieties of lime.—Pharm. J. Lond., 1907, v. 25, p. 540.

Phillip Röder (Jahresbericht, Wien, 1907, p. 33) reports that of 9 samples examined 5 complied with the official requirements, and the remaining samples contained appreciable quantities of sulphates and alkalies.

Evans Sons Lescher and Webb (Analytical Notes, 1907–8, p. 13) assert that commercial varieties of slaked lime will often be found to contain arsenium up to 8 parts per million.

CALX CHLORINATA.

Schwarz, Eugen, discusses the valuation of chlorinated lime, reviews some of the literature on the subject, and records some additional experiments.—Ztschr. f. ang. Chem., Berl., 1907, v. 20, pp. 138–143.

Dietz, H., criticizes the communication by Schwarz on chlorinated lime and points out that without a thorough knowledge of the available literature and a full consideration of all of the factors that have been presented the question of composition and formation of chlorinated lime can hardly be definitely determined upon.—*Ibid.*, v. 20, pp. 754–757.

Bachman, Gustav, found chlorinated lime to be of very varying chlorine content. One sample assayed 29.25 per cent, another 5.38

per cent, and another 0.16 per cent, instead of 30 per cent as required by the U. S. P.—Proc. Minnesota Pharm. Ass., 1907, pp. 40–41.

Sayre, L. E., reports 3 assays of chlorinated lime which yielded 32, 2.2, and 15.4 per cent of available chlorine, respectively.—Bull. Kansas Bd. Health, 1907, p. 11.

Baird, J. W., (com. on adulterations) reports on 14 samples; 2 genuine, 12 adulterated.—Proc. Massachusetts Pharm. Ass., 1907, p. 39.

CALX SULPHURATA.

Dohme and Englehardt report a few samples of calx sulphurata containing only from 45 to 50 per cent CaS.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 379.

Troxell, H. L., (com. on adulterations) found several samples to contain less than 55 per cent of calcium sulphide, as required by the U. S. P. (Revised).—Proc. Maryland Pharm. Ass., 1907, p. 86.

Gilmour, J. P., reports 4 out of 12 samples not up to Ph. Brit. requirements; deficient in sulphide.—Year Book Pharm., Lond., 1907, pp. 446–455.

Morgan, F. C., discusses some new uses for calcium sulfide and reports a number of cases.—Critic and Guide, N. Y., 1907, v. 8, February, p. 20.

CAMBOGIA.

Nelson, Burt. E., discusses the nature and origin of gamboge and points out that under the microscope, beside the amorphous masses, are found numbers of pitted stone cells and some fragments of elongated sclerotic tissues. Prisms of calcium oxalate, parenchyma, fiber fragments, and sandy fragments may also be found.—Merck's Rep., N. Y., 1907, v. 16, p. 192.

Gausby, R. A., reports that gamboge mass is invariably of inferior quality. He examined 4 lots of gamboge powder in which the alcohol soluble matter varied from 58 to 73.6 per cent, ash from 1.35 to 6.8 per cent, and acid value from 55.7 to 85.4 per cent. One lot contained considerable starch, evidently added to an inferior resin to keep the powder from running together.—Proc. Pennsylvania Pharm. Ass., 1907, p. 75.

Patch, E. L., examined 2 samples, 41 and 35 per cent, insoluble in alcohol, respectively. Both samples contained starch.—Proc. Am. Pharm. Ass. 1907, v. 55, p. 325.

CAMPHORA.

Cohn, Alfred I., points out that the official definition of camphor excludes the possible use of the synthetic product as camphor, to comply with the requirements of the U. S. P., must be "the dextrogy-

rate modification of the saturated ketone, etc." The camphor made synthetically is optically inactive.—Proc. N. Y. Pharm. Ass., 1907, p. 232.

Rusby, H. H., discusses the origin and production of camphor.—J. Soc. Chem. Ind., Lond., 1907, v. 26, pp. 380–381.

An editorial discusses the economic conditions in the camphor market.—Pharm. J., Lond., 1907, v. 24, p. 688.

An editorial discusses the outlook of camphor, the estimated annual consumption, the steady increase in the production of celluloid, and the difficulty in the way of cultivating the camphor plant.—*Ibid.*, v. 24, p. 803.

The Secretary of Agriculture reports that drug gardens are now established at a number of points, and as a result of this work it is believed that the camphor industry has been established on a firm basis. A large acreage is being planted in Florida, and interest in the growing of this crop is shown elsewhere. From 3,000 to 4,000 acres of the trees are being prepared for planting in Florida alone.—Ann. Rep. U. S. Dept. Agric., 1907, 1908, p. 57.

An editorial points out that camphor grows well on the entire coast of California, and in places it occurs spontaneously. The plant is rich in camphor of first quality.—Pacific Pharm., San Francisco, 1907–8, v. 1, p. 429.

Gehe & Co. (Handels-Bericht, 1907, pp. 14–15) discuss the annual production of camphor, which is estimated as 60,000 piculs for Formosa and 10,000 piculs for Japan, and point out that the Japanese Government during the past year has furnished more than one million of young camphor trees, of which, it is estimated, only about 30 per cent will grow to maturity.

An editorial discusses the production of camphor in Japan and points out that the world's demand for this article is estimated at upward of ten million pounds, and that fully 70 per cent of the total production is absorbed in the manufacture of celluloid, the remaining 30 per cent being utilized in the manufacture of: gun cotton 2 per cent, disinfectants and deodorizers 15 per cent, and spirituous or medicinal preparations 13 per cent.—Chem. & Drug., Lond., 1907, v. 70, pp. 834–835.

A review of the present status of the chemical industries of Japan presents some figures on the production of camphor in Japan and Formosa, and the amount and value of this product exported during the years 1905 and 1906.—Chem. Ind., Berl., 1907, v. 30, pp. 399–401.

Schultze, Louis, points out that a Japanese newspaper is authority for the statement that the demand for camphor has increased to 10,500,000 pounds annually, and that the Tokio Government has under consideration a project for the planting of large camphor forests.—Proc. Maryland Pharm. Ass., 1907, p. 45.

An unsigned abstract points out some of the efforts that have been made to increase the production of camphor in Formosa to meet the world's requirements, and discusses the process of extraction from the leaves and twigs that has been recently devised. The quality of camphor thus obtained is said to be in no way inferior.—*Oil, Paint, and Drug Reporter*, N. Y., 1907, v. 72, July 1, p. 16.

Cayla, V., discusses the production of natural camphor in Formosa, China, Ceylon, Algeria, and Tonkin.—*J. d'Agric. Trop. Par.*, 1907, v. 7, pp. 335-338. (See also *ibid.*, v. 7, pp. 295-297 and 382.)

An editorial notes that camphor was produced in Japan during the past year to the extent of five and a half million pounds, more than half of this being exported to foreign countries.—*Chem. & Drug.*, Lond., 1907, v. 70, p. 586.

An editorial discusses the development of the camphor industry in China and its relation to the Japanese production.—*Oil, Paint, and Drug Reporter*, N. Y., 1907, v. 72, July 15, p. 8.

Bamber, M. Kelway, reports on the experiments that are being made to introduce the cultivation of camphor into Ceylon, and also presents some information on the price of camphor and the world's consumption of that article.—*Bull. Dept. Agric.*, Jamaica, 1907, v. 5, pp. 234-240.

Nock, J. K., discusses the propagation of camphor, by seeds, by layers, by branch cuttings, by root cuttings, and by suckers.—*Circ. & Agric. J. Roy. Bot. Gard.*, Ceylon, 1907, pp. 13-20.

Beille and Lemaine discuss the production of camphor and the possible cultivation of the camphor tree.—*Bull. Soc. de pharm. de Bordeaux*, 1907, v. 47, pp. 321-329.

Eckert presents a compilation of the reports of planters in German East Africa who have experimented with the seed of Japanese camphor trees.—*Der Pflanzer*, Tanga, 1907, v. 3, pp. 317-320.

An unsigned article reviews the efforts that are being made to encourage the propagation of camphor plants in various parts of the world.—*Chem. & Drug.*, Lond., 1907, v. 71, p. 319.

The British consul at Foochow (China) reports that the quantity of camphor exported from that port has increased from 4,805 cwt. in 1905 to 13,535 cwt. in 1906. He discusses the cultivation of the camphor tree and the possibilities of economic production of the drug.—*Brit. & Col. Drug.*, Lond., 1907, v. 52, p. 208.

Battandier, J. A., contributes a brief note on camphor trees and camphor of Algeria.—*J. de pharm. et de chim. Par.*, 1907, v. 25, p. 182.

Breteau, P., discusses the process of manufacture of synthetic camphor.—*Ibid.*, v. 25, pp. 186-190.

Coblentz, Virgil, discusses the history and the use of camphor in pharmacy and medicine and includes a bibliography on the history of camphor.—*J. Soc. Chem. Ind., Lond.*, 1907, v. 26, pp. 382-383.

An editorial points out that artificial camphor is now a reality and that continental firms are engaged in its production; also discusses the several methods followed in its manufacture.—*Pharm. J. Lond.*, 1907, v. 25, p. 595.

Hempel, Albert, discusses the present status of the manufacture of camphor, the production of natural camphor, the production of synthetic camphor, and the several processes that have been developed for this latter purpose.—*Chem. Ztg., Cöthen*, 1907, v. 40, pp. 6-8.

Hesse, A., criticises the communication by Hempel, particularly his descriptions of the several methods for the production of camphor synthetically.—*Ibid.*, v. 31, p. 101.

Pond, F. J., discusses the synthesis of camphor, outlines the chemistry, and presents a comprehensive bibliography.—*J. Soc. Chem. Ind.*, 1907, v. 26, pp. 383-386.

Cayla, V., discusses the production of synthetic camphor, the principles that are involved and the processes that are now being employed.—*J. d'Agric. trop., Par.*, 1907, v. 7, pp. 227-229.

Kebler, L. F., reviews the production, uses, and chemistry of camphor and the efforts that have been made to produce the substance synthetically. He believes that the outlook for making camphor both synthetically and from natural sources in the United States is promising.—*Am. J. Pharm., Phila.*, 1907, v. 79, pp. 348-356.

Tutin, Frank, discusses the paper by Kebler and points out several inaccuracies in the structural formulæ.—*Ibid.*, v. 79, pp. 551-553.

Kebler, L. F., accepts one correction but believes other criticisms are not well founded.—*Ibid.*, v. 79, pp. 579-580.

Dohme, A. R. L., reviews the progress that has been made in the synthesis of camphor, and discusses, at some length, the process invented by Prof. Behal.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, pp. 457-462.

The same author presents considerable data relating to the production of camphor.—*Ibid.*, v. 55, pp. 462-465.

A news note reports a decision in the U. S. circuit court to the effect that artificial camphor is not a refined article and is not therefore subject to duty.—*Oil, Paint, and Drug Rep., N. Y.*, 1907, v. 72, Dec. 2, p. 10.

Doremus, Chas., asserts that no synthetic camphor is being made in America, the works formerly employed with this production having been closed.—*J. Soc. Chem. Ind., Lond.*, 1907, v. 26, p. 388.

Kline and Graham report that they found synthetic (?) camphor consisting of naphthalene with a small percentage of added camphor.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 83.

An abstract from a report of a French consular officer asserts that a plant has recently been discovered in Borneo and Sumatra which contains a substance identical with camphor.—*Pharm. J. Lond.*, 1907, v. 24, p. 46.

Drobegg, Gustav, discusses the purifying and refining of natural camphor, and points out that the principal methods employed are resublimation, condensation, and crystallization. The rare kinds of camphor, Borneol, Chinese, Sumatra, etc., do not come into consideration from the point of view of the refiner. The principal impurities of camphor are water, camphor oil, iron, sand, wood, etc.—*J. Soc. Chem. Ind., Lond.*, 1907, v. 26, pp. 381–382.

Klose, G., finds that adeps lanae will readily dissolve 11 per cent or more of camphor at 45° C.—*Arch. internat. de Pharmacod. et de Thérap.*, 1907, v. 17, p. 463.

Schuepphaus, R. C., discusses the technical application of camphor, points out that two-thirds of the total production of camphor is consumed in the celluloid industry, and that the widespread idea that camphor enters widely into the manufacture of explosives and smokeless powders has no foundation in fact.—*J. Soc. Chem. Ind., Lond.*, 1907, v. 26, p. 383.

Crane and Joyce present some notes on the analysis of camphor, and point out that this is a subject of growing importance, owing to the high prices now prevailing and the introduction into the market of synthetic camphors which vary in composition and contain impurities different from those found in the natural article.—*Ibid.*, v. 26, pp. 386–388.

Dohme, A. R. L., points out that Langgaard and Maas have demonstrated that synthetic camphor is racemic, that is, optically inactive, because it is composed of equal portions of lævo and dextro camphor. Natural camphor on the other hand is composed of either lævo or dextro camphor depending on the pinene from which it originated in the tree itself.—*D.-A. Apoth.-Ztg.*, N. Y., 1907, v. 28, p. 148.

Bohrisch, P., outlines a new application of the well-known vanillin hydrochloric acid test by means of which it is possible to differentiate between natural and synthetic camphor.—*Pharm. Zentrallh.*, 1907, v. 48, pp. 527–531; 777–780.

Baselli, A., (*Giro. di farm. de Triesta*, 1907, p. 2) gave two tests for the recognition of the purity of synthetic camphor.—*Réport. de pharm.*, 1907, v. 19, p. 125.

Gausby, R. A., reports that no adulterated samples of camphor were found. Nine samples gave melting points ranging from 153–176° C.—Proc. Pennsylvania Pharm. Ass., 1907, p. 79.

Evans Sons Lescher and Webb (Analytical Notes, 1907–8, p. 13) examined 90 samples of camphor. The rotation of 20 per cent w. v. alcoholic solutions (taken in 100 mm. tube) ranged from $+4^{\circ} 30'$ to $+9^{\circ} 6'$. On two occasions it fell as low as $+4^{\circ} 30'$, and on 5 it was found to lie between $+5^{\circ}$ and $+6^{\circ} 52'$. In the remainder it ranged from $+8^{\circ} 10'$ to $+9^{\circ} 6'$. They assert that synthetic camphor is now a commercial possibility and give the results from the examination of two samples of synthetic camphor of English make.

Arnost, Alois, outlines a method for determining the camphor content of alcoholic solutions by shaking out with petroleum benzin in a special, graduated tube. The solution of camphor is diluted with nine times its measure of water and the mixture then shaken out with petroleum benzin noting the change in volume of the latter.—Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich, 1907, v. 45, pp. 40–42.

Seymour, James, outlines a simple method of estimating camphor and alcohol in spirit of camphor.—Proc. Am. Pharm. Ass., 1907, v. 55, pp. 443–444.

Gallois, Chas., says that the figures given by the Comité Disciplinaire de la Chambre Syndicale des Pharmaciens de la Seine, $+6^{\circ} 30'$ ($+30^{\circ}$ saccharimeter) should be considered only as a sort of average about which the ascertained deviations oscillate.—J. de pharm. et de chim., Par., 1907, v. 26, pp. 99–101.

Thurston, Azor, quotes Holderman as calling attention to the fact that each degree of dextrogyration in spirit of camphor corresponds to 1 per cent, by weight, of camphor, or, in other words, the U. S. P. spirit of camphor should rotate the plane of polarization to the right, and in round numbers $+10^{\circ}$ (9.6°); and if a 200 mm. tube is used the reading on the Ventzke scale should be $+28.8^{\circ}$ (27.6°).—Merck's Rep., N. Y., 1907, v. 16, p. 124.

Coblentz, Virgil, outlines a test for acetone in spirit of camphor.—*Ibid.*, v. 16, p. 68.

Barnard, H. E., reports that out of 65 samples of spirit of camphor examined only 15 were pure; the other 50 were below standard equivalent to an adulteration of 76.9 per cent.—Rep. Indiana Bd. Health, 1907, p. 190.

Lythgoe, Hermann C., reports that 31 out of 250 samples of spirit of camphor examined were found to be low in camphor. The camphor contained in these samples varied from 2.5 to 95 gms. of camphor per liter.—Rep. Massachusetts Bd. Health, 1907–8, p. 383.

The N. Y. State Board of Health, Eastern Branch, examined 325 samples, 13 deficient.

The Massachusetts State Board of Health examined 13 samples; 7 varied from 25 per cent to 70 per cent of required strength.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 324.

Baird, J. W., (com. on adulterations) reports on 25 samples, 17 genuine, 8 adulterated.—*Proc. Mass. Pharm. Ass.*, 1907, p. 40.

Philip Röder Wien, reports examining 11 samples of spirits of camphor. The specific gravity varied from 0.900 to 0.905; the Ph. Austr. VIII requires 0.9015 to 0.902.—*Pharm. Post*, Wien, 1907, v. 40, p. 376.

“Gnomon” calls attention to opinions expressed on camphorated oil, which may be briefly summarized as asserting that if the proper quantity of camphor has been used in preparing the oil, any subsequent loss must be attributed to carelessness in preparation or storage.—*Pharm. J.*, Lond., 1907, v. 25, p. 102.

Harrison, E. F., discusses the methods for making camphor liniment and points out that if heat is employed in making this preparation very serious loss of camphor may occur.—*Ibid.*, v. 25, p. 69.

Chapman, Alfred, Chaston, discusses the assay of camphorated oil and the possibility for the deteriorations of this article and points out that with a reasonable amount of care the loss of camphor by volatilization will be so small as to be practically negligible.—*Ibid.*, v. 25, p. 68.

Thurston, Azor, asserts that the polariscope reading of liniment of camphor in 200 mm. tube at 25° C. is +58.5°. He quotes Dowzard as stating that when the Laurent instrument is employed, and a 100 mm. tube, the factor 1.962 should be used.—*Merek's Report*, N. Y., 1907, v. 16, p. 124.

Gilmour, J. P., found 6 samples of camphor liniment deficient in camphor. He has satisfied himself by repeated estimations of liniment of camphor stored under diversified conditions that it loses but a trifling amount of camphor at ordinary temperatures. The essential thing is to put in all the camphor.—*Pharm. J.*, Lond., 1907, v. 25, p. 110.

The annual report of the local government board for England and Wales points out that of 346 samples of camphorated oil examined, 37 were found to be adulterated or not up to the standard.—*Chem. & Drug.*, Lond., 1907, v. 71, p. 828.

Klemperer, Felix, discusses the influence of camphor on the action of the heart, and records a number of experiments and observations.—*Ztschr. f. exper. Path. u. Therap.*, 1907, v. 4, pp. 389–397.

Friedländer, Richard, discusses the use of camphor as a cardiac remedy, reviews the literature relating to its pharmacology and use in the practice of medicine and points out that as yet it has not been possible to demonstrate, by experiments on animals, all of the several

influences of camphor on the animal organism.—Therap. Monatsh. Berl., 1907, v. 21, pp. 176–178.

Rosenberger, A. S., points out that camphor is a remedy that covers the extreme feebleness with a sense of fainting; face very pale; pulse small and low. The symptoms change rapidly to the opposite conditions, rapid pulse, anxiety, fear of death, pleuritic stitches, sighing, and moaning.—Tr. Am. Inst. Homœop., 1907, 63rd session, p. 419.

Additional references on the production, testing, and use of camphor will be found in the Oil, Paint, and Drug Reporter, the Experiment Station Record, and in Chemical Abstracts.

CAMPHORA MONOBROMATA.

Thurston, Azor, suggests the use of the polariscope on the examinations of monobromated camphor and gives its optical rotation as being $+40^{\circ}$.—Merck's Report, N. Y., 1907, v. 16, p. 124.

CANNABIS INDICA.

Dohme, A. R. L., believes that as yet the experiments to cultivate Indian cannabis have not been successful, but asserts that there is every indication that in the course of a few years America and Germany will be in a position to produce a physiologically active drug.—D.-A. Apoth.-Ztg., N. Y., 1907, v. 28, p. 133.

Patch, E. L., examined 7 samples containing from 10 per cent to 12.8 per cent of ether-soluble resin.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 324.

Philipp Röder (Jahresbericht, Wien, 1907, p. 79) reports that of 5 samples of cannabis indica examined one exceeded the official limitation for ash, containing 16.68 per cent; the remaining samples varying from 12.56 to 14.77 per cent.

Gane, E. H., points out that cannabis indica yields approximately 10 to 12 per cent of extract to the official menstruum, and that the resulting fluid extract contains about 80 per cent by weight or 85.9 per cent by volume of absolute alcohol.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 319.

Czerkis, Max, makes a contribution to our knowledge of Indian cannabis in which he reviews some of the literature relating to the action of hasheesh and describes cannabinol, the active constituent of hasheesh. He also records experiments on the oxidation of cannabinol with concentrated nitric acid and its behavior with powdered zinc.—Pharm. Post, Wien, 1907, v. 40, pp. 49–51, 69–70, 97–99.

Houghton and Hamilton record a pharmacological study of *Cannabis americana* (*Cannabis sativa*). From their own observations and from reports received from medical practitioners, they conclude that American cannabis is equally as good and perhaps better than

Cannabis indica obtained from foreign countries.—Proc. Am. Pharm. Ass., 1907, v. 55, pp. 445-448.

An editorial calls attention to the article of Auguste Marie, *Nouvelle iconographie de la Saltpetrière*, May-June, relating to the control of the hasheesh trade, particularly among the Arabs, and to insanity caused by hasheesh.—N. Y., M. J., 1907, v. 86, p. 651.

CANTHARIS.

Peltriset, C. N., makes a contribution to the microscopic study of powdered cantharides. Five plates.—Bull. d. sc. pharmacol., Par., 1907, v. 14, pp. 262-277.

Dohme and Englehardt suggest that a process for the determination of cantharidin should be given.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 379.

Eldred and Bartholomew outline a method for the estimation of cantharidin in cantharides and in preparations of that drug.—*Ibid.*, v. 55, pp. 360-364.

Self and Greenish review the published work on the chemistry of cantharides and outline a method for the determination of cantharidin, which depends on the solubility of that principle in hot water.—Pharm. J., Lond., 1907, v. 24, pp. 324-328. (See also p. 321.)

Krause, Kunz, reports that on analysis of the sebacic-acid by-product obtained from the production of cantharidin from Chinese cantharides, a portion of the mass (which melted at 60°) remained unmelted, and on further treatment 30 gms. of cantharidin was obtained from 750 gms. of it. The cantharidin melted at 210°.—Chem. & Drug., Lond., 1907, v. 71, p. 612.

Patch, E. L., examined 8 samples of Russian cantharides ranging from 0.40 per cent to 0.86 per cent of cantharidin.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 324.

Blome, Walter H., (com. on adulterations) reports on 4 samples of cantharides: Varied from 0.495 to 1.094 per cent of cantharidin.—Proc. Michigan Pharm. Ass., 1907, p. 67.

Cæsar and Loretz (Geschäfts Ber., 1907, p. 79) discuss the estimation of cantharidin in cantharides. The cantharidin content required by the Ph. Germ. is 0.8, Ph. Belg. 0.6, and Ph. Ndl. 0.6-0.8 per cent. The Ph. Ndl. permits 9 per cent of ash; other pharmacopœias, including the U. S. P., limit the ash content to not more than 8 per cent.

Philipp Röder (Jahresbericht, Wien, 1907, p. 34) reports that 3 of the 4 samples of cantharides examined were well within the (Ph. Austr. VIII) 8 per cent limit for ash, the remaining sample contained 10.29 per cent of ash.

The inspectors of pharmacies found cantharides that had undergone complete putrefaction.—Ann. de pharm., Louvain, 1907, v. 13, p. 276.

Hartwich reports observations on a sample of so-called Mexican cantharides which he concludes consisted of a heterogeneous mixture of insects and sand, containing no cantharidin and having nothing in common with cantharides.—*Schweiz. Wehnschr. f. Chem. u. Pharm. Zürich*, 1907, v. 45, pp. 73-74.

Spindler reports a sample of cantharides deficient in cantharidin 0.618 per cent in place of 0.80 per cent required by the pharmacopœia.—*Suedd. Apoth. Ztg.*, 1907, v. 47, p. 50.

Greenish, Henry G., points out that the international agreement required 1 in 10 of 70 per cent alcohol. All the pharmacopœias agree, except the Austrian (90 per cent alcohol) and the U. S. (weight in volume).—*Pharm. J. Lond.*, 1907, v. 24, p. 833.

Klose, G., finds that adeps lanae will dissolve 4.2 per cent of cantharidin.—*Arch. internat. de Pharmacod. et de Thérap.*, 1907, v. 17, p. 463.

The inspectors of pharmacies found few satisfactory samples of ointment of cantharides. They point out that the use of this ointment has perceptibly diminished.—*Ann. de pharm. Louvain*, 1907, v. 13, p. 377.

The editor of "Therapeutic Notes" quotes the report of Anthaeume and Mignot (*Le Bulletin médical*, Aug. 7, 1907) of an unusual result from the application of a cantharidal blister to a man who had been addicted to alcoholism but who had abstained for a long period. Cantharidal nephritis was induced with a tendency to delirium.—*N. Y. M. J.*, 1907, v. 86, p. 554.

CAPSICUM.

Nelson, Burt E., describes and figures the structure of capsicum and calls attention to some of the characteristic cell formations and cell content.—*Merek's Report*, N. Y., 1907, v. 16, p. 130.

Judd, Albert F., found the ash in 10 samples of capsicum to vary from 3.2 to 18.4 per cent.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 260.

Baird, J. W., (com. on adulterations) reports on 25 samples, 22 genuine, 3 adulterated.—*Proc. Massachusetts Pharm. Ass.*, 1907, p. 39.

Patch, E. L., examined 10 samples varying from 16.2 per cent to 26.5 per cent alcoholic extract. One sample contained a notable amount of starch.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 324.

Barnard, H. E., reports that of the 96 samples of tincture of capsicum analysed, 43 were pure and 53 adulterated, equivalent to a percentage of adulteration of 55.2 per cent.—*Rep. Indiana Bd. Health*, 1907, p. 191.

CARBO LIGNI.

Kline and Graham report on a lot of charcoal which, upon investigation, was found to contain 60 per cent of moisture. They also

discuss the decolorizing properties of charcoal.—Proc. Pennsylvania Pharm. Ass., 1907, p. 83.

Evans Sons Lescher and Webb (Analytical Report, 1907–8, p. 15) examined 3 samples of powdered acacia, willow, and ordinary charcoal having an ash content of 5.12, 11.40, and 10.15 per cent, respectively. Two samples of ordinary whole charcoal assayed an ash content of 15.90 and 1.80 per cent. They call attention to the fact that the acacia variety is well below the Ph. Brit. figure ($7\frac{1}{2}$ per cent), whilst the ordinary commercial kind is much higher.

White, Edmund, describes animal charcoal as a dry, black, and fine powder, gives tests, and discusses the trade varieties.—Pharm. J. Lond., 1907, v. 25, p. 540.

Knecht, Edmund, presents some observations on the decolorizing action of animal charcoal and reviews some of the available publications from the time of Figuier, in 1811, who first called attention to the use of animal charcoal for decolorizing liquors.—*Ibid.*, v. 25, p. 154.

Rosenthaler, L., reviews the criticisms made by Glaszner and Suida on the work done by Rosenthaler and Türk to determine the decolorizing action of animal charcoal. He concludes that the decolorizing and absorption phenomena are due to physical processes modified by the reactions between the components of the charcoal and the materials to be absorbed.—Arch. d. Pharm., 1907, v. 245, pp. 686–689.

CARBONEI DISULPHIDUM.

Caspari, Chas. E., (com. on adulterations) examined 3 samples of carbon disulphide: 1 satisfactory; 2 left residue on evaporation.—Proc. Missouri Pharm. Ass., 1907, p. 146.

Blome, Walter H., (com. on adulterations) reports on many samples of carbon disulphide; all contained free sulphur.—Proc. Michigan Pharm. Ass., 1907, p. 67.

CARDAMOMUM.

Nelson, Burt E., describes and figures the structural characteristics of cardamom.—Merck's Report, N. Y., 1907, v. 16, p. 131.

Michael, W. H., points out that both the greater and lesser cardamom, which are natives of Nepal, grow all over India where cultivated. It is considered the most valuable of all Indian condiments.—Am. J. Pharm., Phila., 1907, v. 79, p. 534.

The Annual Report of the Planters' Association of Ceylon for 1906 states that the cardamom crop harvested during the first six months was fully up to expectations, but the unusually wet August and the continuous wet weather from October to the end of the year prevented fructification and retarded the curing of the fruit.—Chem. & Drug., Lond., 1907, v. 70, p. 464.

An abstract (Spice Mill) discusses the origin of cardamom, its medicinal use, its cultivation, and gives some figures as to the area now under cultivation in Ceylon.—*The Spatula*, 1907-8, v. 14, p. 178.

Robin discusses the cultivation of cardamom, the importance of the product, the botany, description, culture, and collection, with some statistics as to the amount produced.—*J. d'Agric. trop.*, Par., 1907, v. 7, pp. 235-237.

Schimmel & Co. (*Semi-Ann. Rep.*, October, 1907, p. 31) point out that when examining Ceylon cardamom oil Wallach found a hydrocarbon (specific gravity 0.864), boiling at 165-167°, which, with glacial acetic and hydrochloric acid, yielded terpinene dihydrochloride (m. p. 52°).

Stansfield, J. M., questions the need for continuing the compound tincture of cardamom in the U. S. P.—*Proc. Florida Pharm. Ass.*, 1907, p. 9.

CARUM.

Nelson, Burt E., describes and figures the structural characteristics of powdered caraway.—*Merck's Report*, N. Y., 1907, v. 16, p. 38.

CATAPLASMA KAOLINI.

Blair, H. C., discusses the history and the uses of cataplasm of kaolin and concludes that, working with a satisfactory sample of kaolin, the careful drying of the clay and the thorough mixing of the ingredients are the two things that will produce good results.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 184.

An unsigned article reviews the history of the use of glycerin poultices.—*J. Am. M. Ass.*, 1907, v. 48, p. 1875.

Wilbert, M. I., calls attention to the fact that kaolin as found on the market differs widely in chemical and physical properties, and that considerable care is necessary to get a kaolin that gives a satisfactory cataplasm, using the U. S. P. quantities.—*Am. J. Pharm.*, Phila., 1907, v. 79, p. 297.

Dawson, Edward S., asserts that the formula for cataplasma kaolini yields a fairly satisfactory product, but the variability of the kaolin furnishes a source of much annoyance.—*Proc. N. Y. Pharm. Ass.*, 1907, p. 221.

An editorial discussing the cataplasm of kaolin expresses the belief that it would be advantageous to mix the kaolin with glycerite of boroglycerin and thus avoid reaction at least between these two substances.—*Bull. Am. Pharm. Ass.*, Chicago, 1907, v. 2, pp. 187-188.

Stanislaus, I. V. S., discusses the preparation of cataplasm of kaolin and points out some of the precautions that are necessary in making this preparation. He points out that the kaolin should be of a variety known in commerce as "bolted china clay."—*Bull.*

Pharm., 1907, v. 21, pp. 153-154. (See also Proc. Pennsylvania Pharm. Ass., 1907, pp. 154-156.)

Lantz, L. Z., comments on the formula for cataplasm of kaolin and points out that the preparation frequently swells after being prepared according to the official process.—Bull. Am. Pharm. Ass., Chicago, 1907, v. 2, p. 30.

An editorial, commenting on the above, points out that the reaction complained of is probably brought about by the presence of water either in the glycerin or kaolin, and this should be guarded against.—*Ibid.*, v. 2, p. 30.

Gluck, M., suggests that in the making of cataplasm of kaolin, precautions should be taken that the latter is free from carbonate.—Drug. Circ., N. Y., 1907, v. 51, p. 220.

An editorial calls attention to the use of earth as a dressing as recommended in 1872, and states that clay in the form of kaolin is cleanly, and possibly it has all the advantages of earth as a dressing.—*Lancet*, Lond., 1907, v. 172, p. 44.

A contributor to the "Pharmacology" column asserts that the clay poultices have probably been exploited with more deception and harm than any other class of preparations excepting acetanilide. The method in which antiphlogistine is exploited is mentioned and the evolution of the official cataplasm is outlined.—*J. Am. M. Ass.*, v. 48, p. 1875.

Tracy, Edward A., advises the use of compound kaolin paste to relieve the pain of synovitis.—*N. Y. M. J.*, 1907, v. 85, p. 360.

CAULOPHYLLUM.

Henkel, Alice, describes and figures *Caulophyllum thalictroides* (L) Michx., commonly known as blue cohosh, caulophyllum, papoose root, squaw root, blueberry root, blue ginseng, yellow ginseng.—Bull. Bur. Plant Ind., U. S. Dept. Agric., 1907, No. 107, pp. 37-38.

Holm, Theo. D., describes and figures *Caulophyllum thalictroides* (L) Michx., also describes and figures the internal structure of the organs of the rhizome, the axis of the inflorescence, the pedicel, and the leaf.—Merck's Report, N. Y., 1907, v. 16, pp. 94-96.

Kinyon, C. B., recommends the use of caulophyllum in diseases of women when the patient is almost frantic or even delirious at times because of the pain. The pains are more sharp and unendurable than in cimicifuga.—Tr. Am. Inst. Homœop., 1907, 63rd session, p. 384.

CERA FLAVA.

Frerichs, G., outlines a description for white wax and yellow wax, in which he includes melting point 64°, specific gravity 0.966-0.970 (15° C.), acid number 18.5-24.1, ester number 73-75.8.

The determination of the specific gravity is to be made by melting the wax at a comparatively low temperature, dropping slowly into alcohol. The resulting roundish grains of wax, dried at room temperature for twenty-four hours, should float in diluted alcohol having a specific gravity of 0.971 and should sink in a similar liquid with a specific gravity of 0.965.—*Apoth. Ztg.* Berl., 1907, v. 22, p. 13.

Bohrisch, P., outlines a proposed monograph for *cera flava* to be included in the coming edition of the *Ph. Germ.* He suggests a melting point limited to from 63 to 64° C., and outlines a method for determining the same with precision. Also outlines tests for identity and purity.—*Ibid.*, v. 22, p. 5.

Buchner, George, discusses the saponification of wax and takes exception to the recommendations made by Bohrisch that the saponification be conducted with direct heat, for from five to six hours. Buchner asserts that with the observation of certain precautions the process can readily be completed in one hour.—*Chem. Ztg.*, Cöthen, 1907, v. 31, p. 126.

He reports some additional observations on the saponification of wax under various conditions, and concludes that his original one-hour method gives uniformly satisfactory results.—*Ibid.*, v. 31, p. 1085.

The same author reports observations on the behavior of wax with ether at ordinary temperature to determine the solubility of the various constituents of wax in ether.—*Ibid.*, v. 31, p. 570.

Berg., Ragnar, discusses the examination of wax, the various uses to which the substance is being put, and the sources from which it is obtained.—*Ibid.*, v. 31, pp. 537-539.

Holmes, E. M., points out that the name white wax has been applied to the product formed by an insect on the twigs of *Ligustrum lucidum*. This he asserts is incorrect, although the substance referred to is a waxlike body and is unusually white. In appearance it exactly resembles spermaceti, but is much harder, its solidifying point being given by Allen as 80.5° to 81° C. Chemically it consists of ceryl cerotate.—*Pharm. J. Lond.*, 1907, v. 25, p. 500.

Dietrich, Karl, reports the examination of beeswax at various stages of age and development, and points out that the physical as well as the chemical characteristics of wax vary considerably.—*Chem. Ztg.*, Cöthen, 1907, v. 31, pp. 987-988.

Kühl, Hugo, discusses the characteristics of the several waxes and waxlike substances used in medicine and the arts.—*Apoth. Ztg.*, Berl., 1907, v. 22, pp. 1136-1137.

An abstract describes a mechanical bleaching process for beeswax.—*Paint, Oil, and Drug Rev.*, Chicago, 1907, v. 44, December 4, p. 16.

Gausby, R. A., points out that both yellow and white wax are still commonly adulterated. The worst lot examined contained about 50 per cent of paraffin. The usual admixture seems to be paraffin or ceresin to the extent of about 10 per cent, with the addition of sufficient stearic acid to restore the diminished saponification value to normal.—Proc. Pennsylvania Pharm. Ass., 1907, p. 78.

Blome, Walter H., (com. on adulterations) reports a number of samples of yellow wax having a melting point of 1 or 2° below the U. S. P. minimum. One lot was very dirty.—Proc. Michigan Pharm. Ass., 1907, p. 71.

Barnard, H. E., reports that of the 7 samples of beeswax examined 6 were pure and 1 was adulterated, being almost half paraffin.—Rep. Indiana Bd. Health, 1907, p. 199.

Baird, J. W., (com. on adulterations) reports on 15 samples of yellow wax; 11 genuine, 4 adulterated.—Proc. Massachusetts Pharm. Ass., 1907, p. 39.

Lythgoe, Hermann C., reports 2 samples out of 12 examined as being adulterated.—Rep. Massachusetts Bd. of Health, 1907-8, p. 385.

Evans Sons Lescher and Webb (Analytical Notes 1907-8, p. 7) found 2 white samples of beeswax with an acid value of 13.4, 7.7; saponification value 54.6, 82.6; melting point 57° C., 50° C., and specific gravity 0.944 and 0.935. One yellow sample gave an acid value of 5.0; saponification value, 25.0; melting point, 66° C., and specific gravity of 0.880.

The inspectors of pharmacies found white wax containing paraffin and yellow wax adulterated with ozokerite; they recommend the use of the saponification test.—Ann. de pharm. Louvain, 1907, v. 13, p. 277.

Philipp Röder (Jahresbericht, Wien, 1907, p. 35) reports that only 2 of 25 samples of yellow wax examined indicated adulteration. One contained ceresin and the other a mixture of stearin and ceresin.

Spindler reports 1 sample of yellow wax as being more than 50 per cent paraffin. The acid number of this sample was 8.9 and the ester number was 34.5.—Suedd. Apoth. Ztg., 1907, v. 47, p. 50.

CERA ALBA.

Hankey, W. T., asserts that he has been unable to find white wax that will meet the requirements on melting point, viz., 64 to 65° C. He found the range in melting point in 25 samples to be from 53 to 63.8° C.—Am. Druggist, N. Y., 1907, v. 50, p. 9.

Blome, Walter H., (com. on adulterations) reports several samples of white wax adulterated with tallow. When so adulterated it may be bent nearly double before breaking. One sample was very dirty.—Proc. Michigan Pharm. Ass., 1907, p. 71.

Baird, J. W., (com. on adulterations) reports one sample adulterated.—Proc. Massachusetts Pharm. Ass., 1907, p. 39.

Gilmour, J. P., found paraffin wax present in 9 samples of white wax.—*Pharm. J. Lond.*, 1907, v. 25, p. 109.

CERII OXALAS.

Dohme and Englehardt report two shipments of cerium oxalate containing an undue amount of arsenic.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 379.

Troxell, H. L., (com. on adulterations) found some samples to contain more arsenic than allowed by the U. S. P.—*Proc. Maryland Pharm. Ass.*, 1907, p. 86.

The editor of the "Therapeutics" column quotes H. B. Sheffield's statement that cerium oxalate and tincture of iodine, well diluted, among other substances enumerated, are all useful gastric sedatives.—*J. Am. M. Ass.*, 1907, v. 48, p. 1211.

CETACEUM.

An unsigned article (Southall's Report 1907, 14) reports that the saponification value determined upon 8 samples, in other respects answering the Ph. Brit. requirements, ranged between 122.7 and 129.6.—*Year Book Pharm. Lond.*, 1907, p. 149.

CHIMAPHILA.

Soules, S. G., reports the disappearance of sugar from the urine of a patient who had suffered from diabetes for eight years, in three weeks after beginning treatment with chimaphila. Capsicum and grindelia robusta had been found efficacious in reducing the amount of sugar.—*N. Y. M. J.*, 1907, v. 86, p. 929.

CHLORALFORMAMIDUM.

The Council on Pharmacy and Chemistry states that chloralamid is a name applied to chloralformamidum, U. S. P.—*J. Am. M. Ass.*, 1907, v. 48, p. 421.

CHLORALUM HYDRATUM.

Sayre, L. E., reports determining the melting point of 2 samples of hydrated chloral which he found to be 51° and 52° C., respectively.—*Bull. Kansas Bd. Health*, 1907, p. 12.

Self, P. A. W., calls attention to the several methods which have been suggested for the assay of hydrated chloral, gives a process devised by Wallis, also his own modification of the Ph. Brit. process.—*Pharm. J. Lond.*, 1907, v. 25, pp. 4-7.

Short, F. W., comments on the assay of chloral hydrate proposed by Self, and calls attention to a method proposed by him about twenty years ago and which he believes to be essentially similar to the one now advocated by Self.—*Ibid.*, v. 25, p. 352.

Covelli, Ercole, reviews the several reactions of hydrated chloral with the phenols, and outlines a reaction which he asserts is characteristic of chloral and depends on the property of this substance to form with fatty oils a greenish blue substance in the presence of strongly hygroscopic materials.—Chem. Ztg., Cöthen, 1907, v. 31, p. 342.

Weston and Ellis discuss the decomposition of chloral hydrate by caustic soda and explain some of the discrepancies in the estimation of the former.—Chem. News, Lond., 1907, v. 95, pp. 210–211.

Rosenthaler and Reis report experiments to determine the action of magnesium hydroxide on chloral and chloroform. They conclude that chloroform is not affected and that the decomposition of chloral is dependent on the length of time and the amount of heat employed. The side reactions of chloral with magnesium hydroxide and other hydroxide ions cause the variation in the results obtained in the estimation of chloral by this method.—Apoth. Ztg., Berl., 1907, v. 22, p. 678.

Schär, Ed., discusses the use of hydrated chloral, chloral alcoholate and hydrated bromal in chemical, microscopical, and microchemical work.—Ber. d. pharm. Gesellsch., Berl., 1907, v. 17, pp. 407–413.

Mayor, A., reports a comparative study of the action of hydrated chloral and some of the more or less closely related newer remedies.—Therap. Monatsh., Berl., 1907, v. 21, pp. 250–263.

Hausmann, W., refers to the possibility of habituation of the organism to hydrated chloral and points out that doses of from 30 to 40 gms. may be taken by an individual accustomed to this drug.—Ergeb. d. Physiol., 1907, v. 6, p. 94.

Dücker discusses the pharmacodynamic action of various synthetic hypnotics including hydrated chloral.—Pharm. Ztg., Berl., 1907, v. 52, p. 971.

Mansfeld and Fejes report observations on the poisoning of normally fed and fasting animals by means of hydrated chloral.—Arch. internat. de Pharmacod. et de Thérap., 1907, v. 17, pp. 349, 353.

Hatcher, Robert A., criticises the statement made by Impens that isopral is a safer hypnotic than hydrated chloral. (J. Am. M. Ass., 1907, v. 48, pp. 1849–1852.) Additional contributions to this controversy will be found *Ibid.*, v. 49, pp. 1906–1909; 1909–1912; 1922.

CHLOROFORMUM.

White, Edmund, describes chloroform, gives tests for impurities, and discusses the varieties usually met in trade.—Pharm. J. Lond., 1907, v. 25, p. 540.

Dohme and Englehardt think it is to be regretted that the U. S. P. did not include a "Chloroformum pro narcosi" with more stringent requirements for its purity. They point out that the tests given in

the U. S. P. do not exclude phosgen, the substance which, as is generally admitted, causes the undesirable effects of chloroform and has even caused death.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 378.

A news item points out that the new regulations of the United States Internal Revenue Department permit the use of a special denatured alcohol for the production of chloroform, and that, in consequence, the price of chloroform has been materially reduced.—*Pharm. J. Lond.*, 1907, v. 25, p. 367.

van der Harst, J. C., reports on a sample of "Chloral-chloroform," which was suspected because of its producing untoward symptoms. Reactions for foreign halogen combinations and for aldehyde were positive; phosgen was also present.—*Pharm. Weekbl.*, 1907, v. 44, p. 1507.

Breteau and Woog (*Répert. de Pharm.*, 1907, No. 2) find Congo-red a delicate reagent for the detection of hydrochloric acid in chloroform, being available when silver nitrate fails.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 895.

Blome, Walter H. (com. on adulterations), reports that quite a large number of samples of chloroform proved to be of uniformly good quality. Only one contained any impurity and that but a trace.—*Proc. Michigan Pharm. Ass.*, 1907, p. 67.

Caldwell, Paul, says that 1 ounce of chloroform anodyne contains 1 dram of chloroform, 9 grains of cannabis indica, 1¼ grains of morphine sulphate, 15 minims of ether, and 62 per cent of alcohol.—*Drug. Circ. N. Y.*, 1907, v. 51, p. 204.

Buckmaster and Gardner report on the estimation of chloroform in the blood of anæsthetized animals, giving comparative results by their own and by Nicloux's method.—*Proc. Roy. Soc. Lond.*, 1907, v. 79, pp. 309-315. (See also *Ibid.*, v. 79, pp. 555-565; 566-579; 579-589.)

Frison and Nicloux report on the quantities of chloroform fixed by the gray and white matter of the brain at the moment of death by this anæsthetic.—*Comp. rend. Soc. de biol. Par.*, 1907, v. 62, pp. 1153-1154; v. 63, pp. 220-222.

Nicloux, Maurice, suggests a modification of his method of estimating small quantities of chloroform in the blood and the tissues with the view of increasing the sensitiveness of the test.—*Ibid.*, v. 63, pp. 391-392.

Polimanti, Osvaldo, discusses the behavior of the blood pressure and respiration in acute chloroform intoxication.—*Arch. farmacol. sper. Roma*, 1907, v. 6, pp. 251-253.

Ballmer, E. A., discusses the use of chloroform in obstetrics.—*Eclectic M. J.*, Cincin., 1907, v. 67, pp. 669-672.

Additional references on the use of chloroform will be found in the *Index Medicus* and the *J. Am. M. Ass.*

CHONDRUS.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 27) detected distinct arsenical contaminations in two lots of Irish moss, after igniting with lime. This is caused, no doubt, by impurities in the sulphur used for bleaching the article.

CHROMII TRIOXIDUM.

White, Edmund, describes chromic acid, gives tests for purity, discusses the available trade varieties, and points out that the chromic acid used as a reagent should be free from sulphate and potassium salts.—Pharm. J. Lond., 1907, v. 25, p. 541.

Wallis, T. E., reports an examination of chromic anhydride and its solutions, and presents a number of suggestions relative to the practical bearing of this investigation upon the Ph. Brit. requirements.—*Ibid.*, 1907, v. 25, pp. 112–113.

Alcock, F. H., discusses a test for salts of chromium by oxidation with sodium peroxide.—*Ibid.*, v. 25, p. 211.

Bennett, C. T., outlines a method for the determination of chromic anhydride, which depends on the liberation of iodine from potassium iodide.—*Ibid.*, v. 25, p. 204.

Caspari, Chas. E., (com. on adulterations) examined 4 samples of chromic acid: none U. S. P.: all contained sulphuric acid.—Proc. Missouri Pharm. Ass., 1907, p. 144.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 16) assert that the "commercial" quality contains as a rule from 54 to 60 per cent CrO_3 , and the "pure" about 98 per cent. Even the latter hardly answers the strict test for sulphuric acid of most pharmacopœias.

CHRYSAROBINUM.

Alvarez, E. Pinerua, describes a color reaction for chrysarobin with hydrate of sodium dioxide, pure ethyl alcohol and cold water.—Ann. de chim. analyt. Par., 1907, v. 12, p. 9.

The editor of the Therapeutics column states that chrysarobin is one of the best remedies for alopecia.—J. Am. M. Ass., 1907, v. 48, p. 1210.

Winkler, M., (Cor. Bl. f. Schweiz. Aerzte, v. 27, No. 18) states that chrysarobin is not excreted by the kidney except to a very limited extent, hence there is little danger of nephritis from its use.—*Ibid.*, v. 49, p. 1726.

CIMICIFUGA.

Henkel, Alice, describes and figures *Cimicifuga racemosa* L. Nutt., also known as black snakeroot, bugbane, bugwort, rattle-snake root, rattleroot, rattleweed, rattletop, richweed, and squawroot.—Bull. Bur. Plant. Ind., U. S. Dept. Agric., 1907, No. 107, pp. 35–36.

Gane, E. H., points out that *cimicifuga* yields from 9 to 12 per cent of extractive to the official menstruum, and that the resulting fluid extract contains approximately 82.82 per cent by weight or 87.8 per cent by volume of absolute alcohol. Distilled, 72.4 per cent by volume.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 319.

Kinyon, C. B., characterizes *cimicifuga* as another uterine polycryst and asserts that it is perhaps more frequently called for in dysmenorrhœa than any other remedy in the materia medica.—*Tr. Am. Inst. Homœop.*, 1907, 63rd session, p. 385.

CINCHONA.

"Xrayser" discusses the discovery of cinchona and points out that there is much probability that the Jesuits really discovered its medicinal value.—*Chem. & Drug.*, Lond., 1907, v. 70, p. 191.

Gehe & Co. (*Handels-Bericht*, 1907, pp. 19–22) discuss the economic conditions prevailing in the cinchona market and give the export of cinchona from Java for 1906 as 6,758,000 kilo; also give figures relating to the production of cinchona and the sale of the bark on the Amsterdam and London markets.

A special correspondent discusses the cultivation of cinchona in Java, and asserts that only about 25,000 acres of land are planted in cinchona trees, and most of this acreage is on the hills around or near Bandoeng, where the quinine factory is located.—*Oil, Paint, and Drug Reporter*, New York, 1907, v. 71, June 24, pp. 29–30.

Perrot and Goris discuss the cultivation of cinchona in the French colonies.—*Bull. de sc. pharmacol. Par.*, 1907, v. 14, pp. 529–536.

V. Leersum, G., (*Ber. Omtrent de Gouvernements Kina-onderneming*, 4e Kwartaal, 1907) reports experiments made in the Dutch governmental laboratories and which have resulted in some highly interesting observations concerning the ontogenesis of the cinchona alkaloids.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 213.

Rohde and Antonaz present a contribution to our knowledge of cinchona alkaloids.—*Ber. d. deutsch. chem. Gesellsch. Berl.*, 1907, v. 40, pp. 2329–2338.

See also paper by Rabe, *Ibid.*, pp. 3655–3658.

Kwisda, A., reviews the advances made in the chemistry of the cinchona alkaloids during the year 1906.—*Pharm. Post*, Wien, 1907, v. 40, p. 154.

Puckner, W. A., reviews the 1906 literature relating to the estimation of alkaloids in cinchona.—*Pharm. Rev.*, Milwaukee, 1907, v. 25, pp. 309–312.

Kebler, Lyman F., found the several experimenters to agree fairly well in their assays of red cinchona, the maximum variation being with ether soluble alkaloids, using the U. S. P. methods where the results vary from 2.86 per cent to 4.27 per cent, a difference of 1.41.—

Proc. Ass. Off. Agric. Chem., 1907, 24th Ann. Conv., p. 81. (Bull. Bur. Chem. U. S. Dept. Agric. 1908, No. 116.)

Dohme and Englehardt point out that the assay method for cinchona could be considerably improved, and suggest a method which yields about 1 per cent more of alkaloids than the U. S. P. method.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 379.

Focke, G., discusses the several modifications for the assay of cinchona that have been proposed during the past year.—Geschäfts Ber. v. Caesar and Loretz in Halle, 1907, pp. 14–17. (See also *Ibid.*, pp. 81–83.)

Rupp and Seegers discuss the availability of the several well-known indicators in the titration of cinchona alkaloids, point out that iodeosin is not available, and assert that hæmatoxylon may satisfactorily be substituted by dinitrophenolphthalein or, better still, by p-nitrophenol, in all cases where a colorless or nearly colorless liquid is used.—Apoth. Ztg. Berl., 1907, v. 22, pp. 748–750.

Knöpfer, Gustav, discusses quinic acid and reports some observations on the decomposition products that he has studied and which were not mentioned by Echtermair in the paper published in this journal, in 1905.—Arch. d. Pharm., 1907, v. 245, pp. 77–80.

An abstract from Pharm. Zeit., 1907, 52, 943, outlines a method for the determination of cinchona tannates and alkaloids in cinchona bark.—Pharm. J. Lond., 1907, v. 25, p. 849.

Philipp Röder Wien, criticises the Ph. Austr. VIII assay process for cinchona and asserts that the results obtained are not reliable.—Ztschr. d. allg. österr. Apoth.-Ver., 1907, v. 45, p. 254.

Troxell, H. L., (com. on adulterations) points out that many samples of the bark run low in alkaloids, due most likely to the fact that high-grade barks are used by the manufacturers of quinine.—Proc. Maryland Pharm. Ass., 1907, p. 86.

Vanderkleed, Charles E., reports 38 assays of cinchona bark ranging from 1.530 to 10.700 per cent. He points out that appearance is no indication of value.—Proc. Pennsylvania Pharm. Ass., 1907, p. 87.

Blome, Walter H., (com. on adulterations) reports that cinchonas occasionally assay low.—Proc. Michigan Pharm. Ass., 1907, p. 67.

Sayre, L. E., reports on 14 assays of commercial cinchona bark, which yielded from 3.6 to 10 per cent of anhydrous cinchona alkaloids. Average 6.19 per cent.—Bull. Kansas Bd. Health, 1907, p. 43.

Patch, E. L., reports an examination of 14 samples varying from 3.02 per cent to 9.56 total, and from 2.56 per cent to 6.3 per cent ether soluble alkaloids.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 324.

Spindler reports a sample of cinchona bark containing but 2.93 per cent of alkaloids and cautions against the purchase of powdered cinchona.—Suedd. Apoth., Ztg., 1907, v. 47, p. 50.

The inspectors of pharmacies point out that because of the variety of species cinchona bark is extremely variable. They have found bark with little or no alkaloid while other samples contained as much as 7 or 8 per cent.—*Ann. de pharm. Louvain*, 1907, v. 13, p. 277.

Niece, Frederic E., outlines a color reaction for testing the identity of tincture of cinchona.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, pp. 481–482.

Dohme and Englehardt point out that the menstruum used by the U. S. P. for extracting cinchona does not exhaust the drug. They find that diluted hydrochloric acid extracts about 15 per cent more of the alkaloids than the official menstruum and assert that the extract has a better appearance than the fluid extract U. S. P.—*Ibid.*, v. 55, p. 380.

Dulière, W., outlines a method for applying Meyer's reagent for the rapid determination of alkaloids in fluid extract of cinchona.—*Ann. de pharm. Louvain*, 1907, v. 13, pp. 51–52.

Evans Sons Lescher and Webb (*Analytical Notes*, 1907–8, p. 16) assert that the official assay method fails entirely with some samples of this extract, which readily forms a thick emulsion after a very slight amount of agitation. In cases of this kind they have secured good results by evaporating with sand on a water bath and thoroughly extracting the residue with chloroform and ammonia.

Kinyon, C. B., recommends the use of china for too early and too profuse menstruation. Menses frequently suppressed from disappointment or chagrin.—*Tr. Am. Inst. Homœop.*, 1907, 63d session, p. 384.

CINCHONA RUBRA.

Gausby, R. A., reports on a sample of powdered red cinchona bark which proved on assay to contain only 1.30 per cent of total alkaloids.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 74.

Sayre, L. E., reports on the examination of 16 samples of red cinchona which yielded from 4.2 to 9 per cent of alkaloid; average 6.62 per cent.—*Bull. Kansas Bd. Health*, 1907, p. 43.

Philipp Röder (*Jahresbericht*, Wien, 1907, p. 40) points out that commercial cinchona is very variable. In 21 samples of cinchona rubra the ash varied from 1.95 per cent to 6.39 per cent and the alkaloidal content from 1.38 to 7 per cent.

Alcock, F. H., outlines characteristics for tincture of cinchona and for compound tincture of cinchona.—*Pharm. J. Lond.*, 1907, v. 25, p. 738.

CINCHONIDINÆ SULPHAS.

Thurston, Azor, asserts that cinchonidine sulphate is laevorotatory in aqueous solution.—*Merck's Report*, N. Y., 1907, v. 16, p. 124.

Blome, Walter H., (com. on adulterations) reports that nearly all samples require more than the amount of water allowed by the

Pharmacopœia for solution.—Proc. Michigan Pharm. Ass., 1907, p. 67.

CINCHONINÆ SULPHAS.

Gordin, H. M., comments on the progress in the chemistry of cinchonine during the year 1906.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 261.

Raube and Ackermann report some observations on the action of nitric acid on cinchonine and the production of various oxidation products.—Ber. d. deutsch. chem. Gesellsch. Berl., 1907, v. 40, pp. 2016–2017.

Rabe, Paul, discusses the production of a new oxidation product of cinchonine and reports a number of experiments.—*Ibid.*, v. 40, III, pp. 3655–3658.

Blome, Walter H., (com. on adulterations) reports that samples of cinchonine sulphate contained excess of quinine and quinidine.—Proc. Michigan Pharm. Ass., 1907, p. 68.

CINNAMOMUM SAIGONICUM.

Rosenthaler, L., (Festschr. z. Einweihung d. neuen. pharm. Inst. d. Un. Strazsburg, 1906) describes Saigon cinnamon. He gives the ash content as being 2.93 per cent, the water content 15.69 per cent and the volatile oil content 2.11 per cent.—Apoth. Ztg. Berl., 1907, v. 22, p. 47.

Hendrick, James, reports observations on the amount of calcium oxalate in cinnamon and cassia barks; he also presents a table giving the ash and the constituents of the ash found in these barks.—Analyst, London, 1907, v. 32, pp. 14–16.

McGill and Lemoine (Lab. Inland Rev. Dept. Canada, Bul. 138, p. 7) includes data on the examination of 33 samples of ground cinnamon and a discussion of the results with reference to standards.—Exp. Sta. Rec., 1907–8, v. 19, p. 1062.

Schimmel & Co. (Semi-Ann. Rep., April, 1907, p. 26) point out that Rosenthaler concludes that Saigon cinnamon originates, if not from *Cinnamomum cassia* Bl. itself, at least from a very closely allied species. The bark contains about 2.1 per cent essential oil and has a very fine odor and taste.

CINNAMOMUM ZEYLANICUM.

Alcock, F. H., discusses the per cent of extract in tincture of cinnamon and points out that the results obtained by him are somewhat lower than those reported by Gadd, Umney, and others. He found that the total solids varied from 1.9 per cent to 2.1 per cent and believes that it will therefore be necessary to look to other data for the confirmation of the genuineness of a sample of tincture of cinnamon.—Pharm. J. Lond., 1907, v. 24, p. 746.

COCA.

An unsigned abstract points out that the production of coca leaves in Perené, Peru, is estimated at 200 quintals, of which 50 have been consumed in the district and 150 exported to Jauja and Huancayo, and that the average price throughout the year has been 9 soles (18s.) per arroba of 25 lbs.—Merck's Report, N. Y., 1907, v. 16, p. 67.

Hemsley, W. B., (Kew Bulletin, 1907, p. 136) describes a plant, known in Peru as *tampusá*, which is used like coca. Holmes has identified the plant as *Werneria dactophylla*, a genus of high level *Compositae*, almost or perhaps quite peculiar to the Andes.—Bot. Centralbl., 1907, v. 105, p. 640.

Kwisda, A., reviews the progress made in the chemistry of the coca alkaloids during the year 1906.—Pharm. Post, Wien, 1907, v. 40, p. 181.

Puckner, W. A., reviews the literature relating to the estimation of cocaine, published during the year 1906.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 312.

Kebler, Lyman F., asserts that the results of assay by all methods are so variable that none can be said to be encouraging. The results that he presents indicate that the aliquot part gravimetric method gives rather more co-relating results than do the other methods that were tried.—Proc. Ass. Off. Agric. Chem., 1907, 24th Ann. Conv., p. 81. (Bull. Bur. Chem., U. S. Dept. Agric., 1908, No. 116.)

Cesar and Loretz (Geschäfts Ber., 1907, p. 92) suggest the determination of the moisture content of coca leaves as well as of the alkaloid, and discuss an assay process, using ether as the solvent.

Greshoff, M., discusses the determination of ecgonine in Java coca.—Pharm. Weekbl., 1907, v. 44, pp. 961-963.

Dohme and Englehardt report that they have had no difficulty in obtaining leaves assaying as high as 0.8 to 0.9 per cent of ether-soluble alkaloids.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 379.

Sayre, L. E., reports on 16 samples of commercial coca leaves which were found to contain from 0.35 to 0.98 per cent of alkaloid. Average 0.61 per cent.—Bull. Kansas Bd. Health, 1907, p. 43.

Troxell, H. L., (com. on adulterations) found one sample (for purchasing) to contain 1.8 per cent cocaine, but was apparently dipped in a cocaine solution.—Proc. Maryland Pharm. Ass., 1907, p. 86.

Vanderkleed, Charles E., (com. on adulterations) reports 16 assays of coca leaf ranging from 0.450 to 1.000 per cent. Truxillo leaf was found to assay generally higher than the Huanuco variety.—Proc. Pennsylvania Pharm. Ass., 1907, p. 88.

Blome, Walter H., (com. on adulterations) reports that coca leaves frequently assay a bit high.—Proc. Michigan Pharm. Ass., 1907, p. 68.

Graham, Willard, examined 3 samples of coca leaves which contained respectively 0.4, 0.55, and 0.77 per cent of ether-soluble alkaloids.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 237.

Gane, E. H., examined 3 lots ranging from 0.70 per cent to 1.02 per cent.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 324.

Patch, E. L., reports 5 lots examined containing from 0.61 per cent to 1.59 per cent.—*Ibid.*, v. 55, p. 324.

Dohme, A. R. L., reports that coca leaves, and also the several galenical preparations of coca, depreciate in cocaine content very markedly, a loss of ash as much as 50 per cent having been noted.—*D.-A., Apoth.-Ztg.*, N. Y., 1907, v. 28, p. 133.

Caldwell, Paul, points out that one ounce of aromatic wine of coca contains $\frac{1}{16}$ grain of cocaine and 19 per cent of alcohol.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 205.

COCAINA.

Gehe & Co. (*Handels-Bericht*, 1907, p. 68) discuss the market conditions for cocaine and present statistics showing the amount of crude cocaine available in the London market January 1st as being 1,900 kilos, the amount disposed of during the year being 5,859 kilos.

Gordin, H. M., reviews the literature bearing on the progress in the chemistry of cocaine made during the year 1906.—*Pharm. Rev. Milwaukee*, 1907, v. 25, p. 265.

Reichard, C., discusses the cause for the fluorescence of cocaine and tropacocaine and believes this to be due to the contained benzoyl radicle.—*Pharm. Ztg.*, Berl., 1907, v. 52, pp. 698-699.

Thurston, Azor, asserts that cocaine is dextrogyrate.—*Merck's Report*, N. Y., 1907, v. 16, p. 124.

Pozzi-Escot, Emm., describes a double iodide of bismuth and cocaine which, it is claimed, offers a good microchemical test for the latter.—*Ann. de chim. analyt.*, Par., 1907, v. 12, p. 358.

Liebermann, C., discusses the utilization of secondary alkaloids of coca and the possible occurrence of decomposition products.—*Ber. d. deutsch. chem. Gesellsch.*, 1907, v. 40, III, pp. 3602-3603.

Schulz, K. (*Pharm. Zeitschr. für Russland*, 1907, p. 165), points out that large crystals of cocaine are usually purer than small crystals or granules. He recommends the MacLagan test for purity and the presence of isotropyl cocaine.—*Schweiz. Wchnschr. f. Chem. u. Pharm.*, Zürich, 1907, v. 45, p. 391.

An editorial reviews the history of the origin and uses of cocaine, and points out the need for restrictive legislation.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 709.

Dohme, A. R. L., reviews the causes that have contributed to the reduction of the price of cocaine. One of the more evident reasons

he believes to be the regulations restricting the sale of this drug.—D.-A., Apoth.-Ztg., N. Y., 1907, v. 28, p. 133.

Rogée, H., discusses the nature and the use of local anesthetics and their comparative usefulness.—Pharm. Zentralb., 1907, v. 48, pp. 201–205.

Winzheimer, E., discusses the chemistry of the newer local anesthetics, their origin and their relation to cholin, as well as their chemical relation to cocaine and ecgonin.—Riedel's Berichte, Berlin, 1907, pp. 9–25.

Spiegel, L., reviews the chemistry and the uses of some of the newer local anesthetics as compared with cocaine.—Chem. Ztg., Cöthen, 1907, v. 31, pp. 323–324.

Caldwell, Paul, says that each cocaine pencil contains $1\frac{1}{2}$ grains of cocaine.—Drug. Circ., N. Y., 1907, v. 51, p. 205.

Hausmann, W., points out that the habituation of the animal organism to cocaine has led to the great prevalence of the cocaine habit. Persons readily acquire the possibility of taking huge doses of this drug.—Ergeb. d. Physiol., 1907, v. 6, pp. 99–100.

MacDonald, Val. discusses the use of cocaine-adrenalin anesthesia in dental operations.—Dental Cosmos, Phila., 1907, v. 49, pp. 555–559.

Vaillard (Arch. de Stomatol. Par. Nov., 1906) discusses the futility and danger of treating cocaine poisoning with morphine.—Abstr. in *Ibid.*, v. 49, p. 413.

Cornet, M. (Rev. Hebd. de Laryng. d'Otol. et de Rhinol.), believes that better results can be obtained by the use of alcoholic solutions of cocaine hydrochlorate than by the employment of the watery solutions usually applied. He asserts that the alcoholic solution acts more rapidly and the burning sensation from the application disappears in a certain time, indicating that the anesthesia is completed.—Hahnnemann. Month., Phila., 1907, v. 42, p. 69.

Additional references on the use of cocaine will be found in the Index Medicus and the J. Am. M. Ass.

COCAINÆ HYDROCHLORIDUM.

Murray, Benjamin L., discusses the U. S. P. melting point for cocaine hydrochloride, asserts that the real melting point for the official article should be given, and suggests 180° to 183° C.—Merck's Report, N. Y., 1907, v. 16, p. 249.

Riedel's Berichte (Berlin, 1907, p. 64) discusses the characteristics of cocaine picrate obtained by precipitation from a dilute solution of cocaine hydrochloride and suggests the possibility of using the melting point of the resulting product and the crystalline structure as a means for recognizing cocaine.

Blome, Walter H. (com. on adulterations), reports cocaine hydrochloride with the melting point 181° C., and calls attention to the fact that the U. S. P. states that "Minute quantities of impurities may reduce the melting point to 180° or less."—Proc. Michigan Pharm. Ass., 1907, p. 68.

Vanderkleed, Charles E. (com. on adulterations), reports on one sample of cocaine hydrochloride which contained isotropylcocaine.—Proc. Pennsylvania Pharm. Ass., 1907, p. 84.

The inspectors of pharmacies report finding cocaine hydrochloride having 2 molecules of water of crystallization in place of the anhydrous salt prescribed by the pharmacopœia.—Ann. de pharm. Louvain, 1907, v. 13, p. 326.

Dean, H. P. (Brit. M. J., Oct. 5), discusses inhalation and injection anesthesia, and states that the principal objection to lumbar anesthesia lies in the poisonous and treacherous character of cocaine. He states that the whole method of lumbar anesthesia stands or falls by its ability to protect the patient from surgical shock, and our knowledge of this requires immediate codification.—J. Am. M. Ass., 1907, v. 49, p. 1559.

COCCUS.

Sage, C. J., reports some observations on cochineal cultivation as carried on in the Canary Islands.—Merck's Report, N. Y., 1907, v. 16, pp. 283-284.

Blome, Walter H. (com. on adulterations), reports that a sample of cochineal, silvered, left 24.36 per cent of ash.—Proc. Michigan Pharm. Ass., 1907, p. 68.

Gane, E. H., reports the examination of 3 samples of cochineal: 1 gray, which assayed 8.81 per cent, 9.41 per cent ash content; 1 silver, 25 to 35 per cent ash, and the other black, 7 per cent ash content. One sample of fine appearance was clearly weighted with black sand, 20 per cent.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 325.

Patch, E. L., examined 3 samples which varied from 4.4 per cent to 5 per cent in ash content.—*Ibid.*, v. 55, p. 325.

Cæsar and Loretz (Geschäfts Ber., 1907, p. 80) point out that cochineal should be examined for (1) moisture content; (2) ash content; (3) tinctorial power. They outline a method for determining the latter factor. The ash content is limited by the Ph. Germ. to 5, Ph. Helv. 6, and the U. S. P. 6 per cent.

CODEINA.

Warren and Weiss discuss the use of picrolonic acid as a precipitant for codeine, and describe and figure codeine picrolonate.—Journ. Biol. Chem., N. Y., 1907, v. 3, p. 336. (See also paper by

Matthes and Rammstedt, Ztschr. f. anal. Chem., Wiesb., 1907, v. 46, p. 572.)

Thurston, Azor, asserts that codeine sulphate is levogyrate in aqueous solution.—Merck's Report, N. Y., 1907, v. 16, p. 124.

Knorr and several collaborators present a number of communications on the chemistry of codeine.—Ber. d. deutsch. chem. Gesellsch., 1907, v. 40, III, pp. 3341-3355; 3355-3358; 3844-3851; 3860-3868; 4889-4892.

Vinci, Gaetano, reports a series of experiments to determine the action of codeine.—Arch. internat. de Pharmacod. et de Thérap., 1907, v. 17, pp. 21-29.

For additional references on the use of codeine see the Index Medicus.

COLCHICI CORMUS.

Kebler, Lyman F., points out that the results of assay by the U. S. P. method are materially higher than the results obtained by an alternate method. By the U. S. P. method the results varied from 0.290 to 0.454 per cent and by the alternate method from 0.280 to 0.298 per cent.—Proc. Ass. Off. Agric. Chem., 1907, 24th Ann. Conv., p. 85. (Bull. Bur. Chem., U. S. Dept. Agric., 1908, No. 116.)

Vanderkleed, Charles E., (com. on adulterations) reports 12 assays of colchicum corm ranging from 0.334 to 0.500 per cent.—Proc. Pennsylvania Pharm. Ass., 1907, p. 88.

Gane, E. H., reports the examination of 6 lots which assayed from 0.2 to 0.47 per cent.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 325.

Sayre, L. E., examined 18 samples of colchicum root assaying from 0.3 to 0.74 per cent of alkaloids. Average 0.49.—Bull. Kansas Bd. Health, 1907, p. 44.

COLCHICI SEMEN.

Remington, Joseph P., reports that the U. S. P. standard for colchicum seed is *now* 0.45 per cent of colchicine. Fluid extract of colchicum seed *now* 0.4 gramme alkaloid in 100 cc., tincture of colchicum seed *now* 0.04 gramme alkaloid in 100 cc.—Am. J. Pharm., Phila., 1907, v. 79, p. 135.

Puckner, W. A., reviews the literature of 1906 relating to the assay of colchicum.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 322.

Kebler, Lyman F., points out that a series of comparative experiments in the assay of colchicum seed showed great variations in the final results. Attempts to purify the residues indicate that the results would be unreliable. The resulting figures for the unpurified residue varied from 0.642 to 1.044 per cent by the U. S. P. method and from 0.496 to 1.190 per cent by an alternate method.—

Proc. Ass. Off. Agric. Chem., 1907, 24th Ann. Conv., p. 87. (Bull. Bur. Chem., U. S. Dept. Agric., 1908, No. 116.)

Caesar and Loretz (Geschäfts Ber., 1907, p. 51) point out that in the assay for colchicum seed the U. S. P. departs from the general practice of percolation and permits the use of aliquot parts. Also assert that the method proposed by Panchaud (Schweiz. Wochenschr. f. Chem. u. Ph., 1906, p. 563) is more practical than the U. S. P. method.

Vanderkleed. Chas. E., (com. on adulterations) reports 4 assays of colchicum seed ranging from 0.280 to 0.800 per cent. Quality very good. He sees no good reason for reducing standard from 0.55 to 0.45.—Proc. Pennsylvania Pharm. Ass., 1907, p. 88.

Gane, E. H., examined 4 samples which ranged from 0.40 per cent to 0.51 per cent.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 325.

Sayre, L. E., reports 11 assays of commercial samples of colchicum seed which contained from 0.32 to 0.8 per cent of alkaloid. Average 0.57 per cent.—Bull. Kansas Bd. Health, 1907, p. 44.

Dawson, Edward S., recommends removing the fixed oil with petroleum benzin, in making the fluid extract of colchicum seed.—Proc. N. Y. Pharm. Ass., 1907, pp. 223–224.

Niece, Frederic E., outlines a color reaction test for the identity of tincture of colchicum and suggests extract content and qualitative test for active principle.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 482.

Adams, E. O., recommends colchicum for rheumatic and gouty diathesis with aversion to the sight or smell of food.—Tr. Am. Inst. Homœop., 1907, 63d session, p. 369.

COLCHICINA.

Dohme and Englehardt assert that the solubility of colchicine, 1:22 in water, could be reduced as an alkaloid which is soluble 1:12 can easily be made.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 379.

Coleman, C. J., reports experiments to determine the influence of injections of colchicine on leucocytosis and the possible influence of leucocytosis on the coagulation time of the blood. He concludes that although the time of coagulation increases synchronously with the leucocytosis, this increase is not strictly proportional.—Biochem. J. Liverpool, 1907, v. 2, pp. 194–198.

COLLODIUM.

Guttmann, Oscar, reviews the chemistry of the production of pyroxylin and criticises Lunge's hypothesis of the composition of this article.—Ztschr. f. ang. Chem., Berl., 1907, v. 20, pp. 262–264.

Scoville, W. L., points out that collodion varies considerably in strength, due probably to the variation in quality of pyroxylin used.

Some was one-fourth to one-half per cent above the standard; some 1 per cent or more below.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 325.

The inspectors of pharmacies assert that collodion is frequently not well preserved. They found samples that had been prepared with cotton insufficiently nitrated and partially gelatinized.—Ann. de pharm. Louvain, 1907, v. 13, p. 331.

Caldwell, Paul, asserts that 1 ounce of iodized collodion contains 330 minims of ether and 23 per cent of alcohol; 1 ounce of iodoform collodion contains 330 minims of ether and 23 per cent of alcohol; 1 ounce of corn collodion contains $9\frac{1}{2}$ grains of extract of cannabis indica, 300 minims of ether, and 31 per cent of alcohol. One ounce of croton oil collodion contains 300 minims of ether and 21 per cent of alcohol.—Drug. Circ. N. Y., 1907, v. 51, p. 204.

COLOCYNTHIS.

Nelson, Burt E., describes and figures the structural characteristics of colocynthis.—Merck's Report, N. Y., 1907, v. 16, p. 162.

Tunmann discusses the structural characteristics of colocynth seed and the probable influence of this structure on germination. He expresses the belief that colocynth seed does not contain medicinally active constituents.—Suedd. Apoth. Ztg., 1907, v. 47, pp. 503-505.

Naylor and Chappel describe an examination of *Cucumis trigonus* and also report some additional observations on the properties of an authentic specimen of colocynthin. They conclude that the principle obtained from *Cucumis trigonus* is identical with colocynthin of *Citrullus colocynthis*.—Pharm. J., Lond., 1907, v. 25, pp. 117-118.

Hooper, David, points out that the isolation of colocynthin from *C. trigonus* was reported in 1890, and adds that colocynthin appears to be widely distributed in plants of the Cucurbitaceæ.—*Ibid.*, v. 25, p. 501.

Gilmour, J. P., reports 2 out of 5 samples of colocynth pulp not up to Ph. Brit. requirements: largely admixed with starch.—Year Book Pharm., Lond., 1907, pp. 446-455.

Barton, Charles N., relates that a woman took two teaspoonfuls of powdered colocynth, which resulted in vomiting and purging, but there was no collapse and no blood in the vomit or stools.—Brit. M. J., 1907, v. 1, p. 1364.

Butler, T. Langdon, relates the circumstances of a case of poisoning with bitter apple. There was vomiting and purging, but no effect on the uterus, though pregnancy of three months' duration existed.—*Ibid.*, v. 1, p. 1537.

Bloyer thinks the value of this drug as a pain-relieving agent is not sufficiently recognized; he considers it a specific for the relief of cramping pains or spasms of the unstriped muscular fiber for organic pain; it matters not in what organ the distress occurs.—Eclectic M. J., Cincin., 1907, v. 67, p. 61.

CONIUM.

Nelson, Burt E., describes and figures the structural characteristics of conium.—Merck's Report, N. Y., 1907, v. 16, p. 162.

Gane, E. H., reports that the U. S. P. assay for conium according to H. M. Gordin is complicated and will hardly give concordant results. As yet no satisfactory modification has been devised.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 316.

Gordin, H. M., reviews the progress made in the chemistry of coniine during the year 1906.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 323.

Vanderkleed, Chas. E., reports 8 assays of conium seed ranging from 0.470 to 0.778 per cent.—Proc. Pennsylvania Pharm. Ass., 1907, p. 88.

Sayre, L. E., examined 14 samples of conium fruit which assayed from 0.40 to 0.91 per cent of alkaloid coniine. Average, 0.61 per cent.—Bull. Kansas Bd. Health, 1907, p. 44.

Blome, Walter H., (com. on adulterations) reports that conium fruit always assays high.—Proc. Michigan Pharm. Ass., 1907, p. 68.

An unsigned article quotes Stevens, Caldwell, and three manufacturers as giving the percentage of alcohol in the official fluid extract of conium as 48.9, 47, 45, 40, and 75 per cent, respectively.—Drug. Circ., N. Y., 1907, v. 51, p. 319.

Lamic (Arch. méd. d. Toulouse, 1/VI/07) thinks the toxicity of *Conium maculatum* has been greatly exaggerated.—Répert de pharm., Par., 1907, v. 19, p. 308.

Kinyon, C. B., asserts that conium has uses similar to cocculus, except that it has labor-like, bearing-down pains at the time of the flow. Burning soreness and aching pain in the uterus.—Tr. Am. Inst. Homœop., 1907, 63d session, p. 385.

Fornias, Eduardo, asserts that conium is a well-recognized remedy for orchitis from contusion, as well as for induration.—Hahnemann. Month., Phila., 1907, v. 42, p. 585.

CONVALLARIA.

Lenneker, William, reports some observations on the therapeutic action of convallaria and points out a number of indications for this drug which he asserts "is one of the best tonics for the stomach we have. It gives tone to the stomach, increases the appetite, and, what is more, exerts a tonic effect upon the intestinal mucosa, increasing the action of the bowels in a great many people."—Therap. Gaz., Detroit, 1907, v. 31, pp. 616-617.

Schram, Charles, states that *Convallaria majalis* should be tried in neurotic types of myocarditis.—N. Y. M. J., 1907, v. 86, p. 593.

COPAIBA.

Mitchell, Edward, asserts that balsam of copaiba is one of the most difficult items for a druggist to know is pure. The present Pharmacopœia cuts out the brown or Central American variety, as under the requirements yellow or brownish-yellow color is specified.—Proc. Arkansas Pharm. Ass., 1907, p. 89.

Parry, Ernest J., points out that an enormous amount of adulteration of copaiba is being practiced at the present time. He reviews the several tests that have been proposed for the detection of gurgun balsam, Hardwickia balsam, and other adulterants.—Chem. & Drug., Lond., 1907, v. 71, p. 518.

An editorial points out that the present high prices of copaiba are largely due to the new stringent requirements of the U. S. A. pure food and drugs act, and also to some extent to the higher price of rubber, which attracts collectors from the cheaper article in Central America.—*Ibid.*, v. 40, p. 521.

Gane, E. H., states that since the first of the year the quality of copaiba has steadily improved. Prior to that time it was difficult to obtain a straight article. Large quantities of spurious goods come from London and Hamburg. Even now admixture with African balsam is common, although on therapeutic grounds little exception could be taken to this admixture.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 325.

Hooper, David, discusses balsam of *Hardwickia pinnata*, describes its origin, history, and its introduction into medicine; also gives the various constants and points out that the oleo-resin is sufficiently distinct in its characters to prevent any confusion being made between it and copaiba or gurgun balsams.—Pharm. J., Lond., 1907, v. 24, pp. 4-5.

Cesar and Loretz (Geschäfts Ber., 1907, p. 76) discuss the properties of and the tests for copaiba, and point out that the several pharmacopœias differ somewhat in their requirements. The specific gravity is reported by them as being: Ph. Germ. 0.980-0.990; Ph. Belg. 0.94-0.99; Ph. Ndl. 0.94-0.99; Ph. Jap. 0.94-0.99; Ph. Austr. 0.94-0.99; Ph. Helv. at least, 0.96; Ph. Svec. 0.94-0.99; and U. S. P. 0.95-0.995.

Philipp Röder asserts that the acid and saponification number of true copaiba varies to such an extent that these factors can not be relied on as an indication of the identity or purity of the drug.—Pharm. Post., Wien, 1907, v. 40, p. 323.

Vanderkleed and Lynch discuss the U. S. P. test for gurgun balsam in copaiba and present a modification of the nitric-acid test.—Proc. Pennsylvania Pharm. Ass., 1907, pp. 105-107.

Walbaum, L. E., discusses the detection of rosin in copaiba and records, in tabular form, his experiments with the ammonia test as

usually carried out. He points out that a colorimetric test which depends on the reddish-brown compound resulting from the combination of ammonia with rosin is much more sensitive than the usual gelatinization test.—Pharm. Zentrallh., 1907, v. 48, pp. 437–445. (See also Arch. f. Pharm. og. Chem.)

Dohme and Englehardt think it is to be regretted that there is no reliable test for rosin in copaiba and call attention to an article by L. E. Walbaum on this subject.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 379.

Gausby, R. A., points out that it is very difficult to get a satisfactory quality of copaiba balsam. The usual adulterants are mineral oil and gurjun balsam. In an appended table he gives the results of an examination of a number of samples.—Proc. Pennsylvania Pharm. Ass., 1907, p. 76.

Troxell, H. L. (com. on adulterations), found a few samples to contain an excess of gurjun balsam.—Proc. Maryland Pharm. Ass., 1907, p. 86.

Vanderkleed, Turner, and Lynch report on several samples of copaiba adulterated with gurjun balsam, and point out that adulterations with petroleum oil have been reported, but that none were observed.—Proc. Pennsylvania Pharm. Ass., 1907, p. 84.

Blome, Walter H., (com. on adulterations) reports on 2 samples of copaiba that were off in specific gravity, low in acid resins, and showed presence of neutral oils. According to the amended tests, commercial samples do not show presence of gurjun balsam, whereas formerly they quite frequently responded to the tests for this substance.—Proc. Michigan Pharm. Ass., 1907, p. 68.

Caspari, Chas. E., (com. on adulterations) examined 19 samples; 14 satisfactory, 5 contained gurjun balsam.—Proc. Missouri Pharm. Ass., 1907, p. 143.

Francis, J. M., reports on 2 samples of copaiba adulterated with foreign oils, which were deficient in acid resins.—Proc. Pennsylvania Pharm. Ass., 1907, p. 84.

Patch, E. L., found copaiba, Para, with 27.3 per cent and 37.43 per cent resin. Ten Central American samples examined assayed from 50.5 to 58 per cent. Three samples did not meet U. S. P. requirements, containing from 37.3 to 40.38 per cent.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 325.

Evans Sons Lescher and Webb (Analytical Notes 1907–1908, pp. 18–20) record some of their observations upon three varieties of South American balsam.

Southall's Report (1907, 10) notes that a large proportion of the balsams met with on the market during the current year have failed to pass the official tests.—Yearbook Pharm., Lond., 1907, p. 49.

Gilmour, J. P., reports 5 out of 25 samples not up to Ph. Brit. requirements; gave reactions for gurjun balsam.—*Ibid.*, 1907, pp. 446-455.

Mossler, Gustav, reports examining 5 samples of copaiba; one with a specific gravity of 1.007 was contaminated with gurjun balsam; 2 were pure, and 2 additional samples with a specific gravity of 0.963 and 0.965, respectively, also contained some gurjun balsam. He also comments on Bossati's test for rosin in copaiba.—*Ztschr. d. Allg. österr. Apoth.-Ver.*, Wien, 1907, v. 45, p. 2.

The inspectors of pharmacies report that they have found many samples of copaiba adulterated with fatty oils and gurjun balsam.—*Ann. de Pharm.*, Louvain, 1907, v. 13, p. 276.

They also found capsules of copaiba in which the copaiba was wholly or partially replaced by gurjun balsam. They also found capsules of copaiba containing fatty oils.—*Ibid.*, v. 13, p. 330.

Shedd, P. W., believes that copaiba is one of the toxic drugs whose introduction into the economy means a revolt of vitality against the noxious agent; the establishment of a drug disease with an invariable functional (if not organic) pathology which technically is termed pathogenesis.—*Hahnemann. Month.*, Phila., 1907, v. 42, pp. 122-126.

CORIANDRUM.

Nelson, Burt E., describes and figures the microscopical structure of coriander.—*Merck's Report*, N. Y., 1907, v. 16, p. 130.

Blome, Walter H. (com. on adulterations), reports a sample of coriander mixed with about 20 per cent of flaxseed.—*Proc. Michigan Pharm. Ass.*, 1907, p. 68.

van der Harst, J. C., found a sample of coriander containing more than 6 per cent of foreign seeds, sticks, earth, etc.—*Pharm. Weekbl.*, 1907, v. 44, p. 1506.

CREOSOTUM.

Greer, W. C., (Forest Service Bull., U. S. Dept. Agric.) discusses the methods now followed for wood distillation and calls attention to some of the resulting products.—*Pharm. Era.*, N. Y., 1907, v. 37, p. 487.

Kahn, Joseph, presents a table of reactions to differentiate creosote from phenol, cresol, and other coal-tar compounds.—*Proc. N. Y. Pharm. Ass.*, 1907, p. 241.

Gausby, R. A., reports examining one lot which was of inferior quality. It was of a pink color and gave strong indications of containing coal-tar creosote. The first drop distilled at 378° F., 36 per cent passed over below 391° F., 92 per cent passed over below 410° F.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 79.

Blome, Walter H., (com. on adulterations) reports several samples which consisted entirely of coal-tar creosote. Most samples form but 2 layers when shaken with benzin and baryta water, whereas they ought to form 3 distinct layers.—*Proc. Michigan Pharm. Ass.*, 1907, p. 68.

Francis, J. M., reports a number of samples which, according to the U. S. P. tests, were adulterated with "coal-tar creosote." He questions the reliability of the U. S. P. tests.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 85.

The inspectors of pharmacies assert that many samples of creosote were found to be of inferior quality, deficient in guaiacol, and low in specific gravity (1.08).—*Ann. de pharm.*, Louvain, 1907, v. 13, p. 326.

Le Bailly (*La Clinique*, *L'Union Pharm.*, 1907, 48, 301) recommends essential oil of bitter almonds as an efficient means of disguising the odor of creosote, being much superior to other essential oils for the purpose. For 50 gm. of a 20 per cent solution of creosote 25 drops of bitter-almond oil is sufficient; for the same quantity of a 5 per cent solution 20 drops suffice.—*Pharm. J. Lond.*, 1907, v. 25, p. 334.

Bouchet (*Progrès medical*, Sept. 1, 1906) discusses the administration of creosote and points out that an excellent way is to mix the creosote with powdered charcoal, in the proportion of one part of the former to two of the latter, by weight. The resultant mixture may be administered in the form of wafers or capsules.—*Therap. Gaz. Detroit*, 1907, v. 31, pp. 256-257.

CRESOL.

Herzog, J., outlines the requirements for a new "crude cresol" to be included in the Ph. Germ. He believes the following requirements should be considered: (1) A high disinfecting power; (2) relatively nontoxic to man; (3) ready solubility in water; (4) freedom from contamination; (5) low price. He discusses these several requirements at some length and outlines a description for what he considers a desirable product.—*Apoth. Ztg. Berl.*, 1907, v. 22, pp. 77-78.

Emde, H., reviews some of the recent literature on crude cresol and suggests the use of that fraction containing a preponderating amount of *m*-cresol. He reports examining 3 samples of commercial cresol and outlines a method for determining the *m*-cresol content of crude cresol.—*Ibid.*, v. 22, pp. 104-106.

Smith, Otis W., has made a thorough canvass of the leading manufacturers in an attempt to locate cresol of proper quality. He is convinced that, for the present, pharmacists will find it almost impos-

sible to obtain cresol which will meet the pharmacopoeial requirements.—Proc. Missouri Pharm. Ass., 1907, p. 133.

Gardner, Hermann C. T., outlines Keppler's modification of Koppeschaar's method of estimating phenol as applied to the estimation of cresol.—Pharm. J. Lond., 1907, v. 24, p. 745.

Eger, E., discusses the composition of cresols and points out that the determination of the boiling point is an important indication of the identity or purity of the product.—Pharm. Ztg. Berl., 1907, v. 52, pp. 1049–1050.

Kahn, Joseph, outlines tests to differentiate cresol from phenol, creosote, and related compounds.—Proc. N. Y. Pharm. Ass., 1907, p. 241.

Philipp Röder (Jahresbericht, Wien, 1907, p. 87) reports that of 4 samples of crude cresol examined 1 was rejected on account of the low percentage of cresol.

Nitardy, F., finds that the difficulties encountered by some when making the compound cresol solution of the U. S. P. VIII may be overcome by warming the mixture of alkali and oil until saponification results, then adding the cresol.—Bull. Pharm., Detroit, 1907, v. 21, p. 208.

Rapp discusses the disinfecting value of the three isomeric cresols, reports a number of experiments and concludes that *o*-cresol is the equivalent of *p*-cresol and only slightly inferior to *m*-cresol in bactericidal action. He is not in favor of the proposed separation of the several fractions of cresol.—Apoth. Ztg., Berl., 1907, v. 22, pp. 642–644.

Blyth and Goodban report experiments on the germicidal action of the several cresols and of phenol on cultures of *Bacillus coli communis*.—Chem. Repert. Cöthen., 1907, v. 31, p. 399.

Blumenthal and Jacoby report experiments made to determine the nature of the toxicity of cresol.—Biochem. Ztschr. Berl., 1907, v. 7, pp. 39–44.

Wandel presents a contribution to the pathology of lysol and cresol poisoning and reports on the structural changes observed in experimental cases of cresol poisoning.—Arch. f. exper. Path. u. Pharmacol. Leipz., 1907, v. 56, pp. 160–185.

Bial, Manfred, criticises the conclusions arrived at by Wandel, particularly the appearance of free cresol in the gall bladder.—*Ibid.*, v. 56, pp. 416–419.

Wandel replies, *Ibid.*, v. 56, pp. 420–421.

Additional references on the use and the toxicology of cresol and preparations containing it will be found in Jahresbericht über.—Tier. Chemie and in the Index Medicus.

CRETA PRÆPARATA.

Gilmour, J. P., reports 4 out of 12 samples of prepared chalk not up to Ph. Brit. requirements; silica and sulphates present.—Year Book of Pharmacy, Lond., 1907, pp. 446-455.

CUBEBA.

Blome, Walter H., (com. on adulterations) reports on 5 samples of cubeb which assayed from 18.85 to 26.88 per cent of oleoresin.—Proc. Michigan Pharm. Ass., 1907, p. 68.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 21) found 4 samples with an amount of oleo-resin extracted by ether ranging from 21.13 to 22.8 per cent.

Philipp Röder (Jahresbericht, Wien, 1907, p. 72) found that 2 of the 4 samples of cubeb examined exceeded the 9 per cent limit for ash, one sample consisting largely of stems also fell below the 12 per cent minimum of ether-alcohol extract.

Niece, Frederic E., outlines a color reaction for testing the identity of tincture of cubeb.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 482.

CUPRI SULPHAS.

White, Edmund, describes cupric sulphate, outlines a number of tests to which the substances used as an analytical reagent should correspond and describes the trade varieties.—Pharm. J. Lond., 1907, v. 25, p. 780.

Gooch and Heath discuss the iodometric estimation of copper.—Ztschr. f. anorg. Chem., 1907, v. 55, pp. 119-129.

Moser, L., presents observations on the iodometric estimation of copper according to the method of Haën, and discusses the communication by Gooch and Heath.—*Ibid.*, v. 56, p. 143.

Kellerman and Beckwith discuss the effect of copper upon water bacteria and the use of copper sulphate in connection with filtration.—Bull. Bur. Plant Ind., U. S. Dept. Agric., 1907, No. 100, pp. 57-71.

Kellerman, Pratt, and Kimberly discuss the disinfection of effluents for the protection of public water supplies, and record a number of experiments on the germicidal effect of copper sulphate.—*Ibid.*, 1907, No. 115, p. 47.

Gilbert, J. L., discusses the possible use of sulphate of copper in typhoid fever.—Med. Rec., N. Y., 1907, v. 71, pp. 531-532.

Rogers, Frederick T., presents observations on the use of copper sulphate with dionin in trachoma with pannus.—J. Am. M. Ass., 1907, v. 49, pp. 218-223.

CYPRIPEDIUM.

Henkel, Alice, describes and figures *Cypripedium hirsutum* Mill., also known as *Cypripedium pubescens* Willd., commonly called large yellow lady's slipper, yellow lady's slipper, yellow moccasin flower, Venus' shoe, Venus' cup, yellow Indian shoe, American valerian, nerve root, male nervine, yellow Noah's ark, yellow monkey flower, umbil root, and yellow umbil. She also describes *Cypripedium parviflorum* Salisb., commonly known as small yellow lady's slipper.—Bull. Bur. Plant Ind., U. S. Dept. Agric., 1907, No. 107, pp. 23-24.

Jennings, O. E. (Plant World 10:189-191 Au. 1907), presents a note on the poisonous qualities of the yellow lady's slipper.—Bull. Torrey Bot. Club, Chicago, 1907, v. 34, p. 219.

DIGITALIS.

Rusby, H. H., points out that digitalis is reported as growing wild in the States of Oregon and Washington, and that there should be no trouble in securing this drug of good quality.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 335.

Houghton, E. M., reports testing samples of digitalis grown in Oregon, Tennessee, and Michigan, and in every instance the drug was found to be superior to samples of first-class imported drug.—*Ibid.*, v. 55, p. 337.

Cesar and Loretz (Geschäfts Ber., 1907, pp. 26-28) discuss the influence of atmospheric conditions, at the time of harvesting, on the activity of digitalis. Leaves gathered during a wet season only represented a comparative value of 4.4, while leaves gathered from the same location during a succeeding warm and dry spell showed a comparative value of 5.1 to 6.0.

Farr, E. H., reports some observations on the relative activity of first and second year's leaves of digitalis, and points out that the relative toxicity of the tincture from the first year's leaves and the second year's leaves is as 8½ is to 10; that is to say, the latter is rather more potent.—Pharm. J. Lond., 1907, v. 24, p. 198.

An editorial discusses the determination of the value of digitalis and also calls attention to the work done by Eyvin Wang on the estimation of values of digitalis leaves and the methods of determining the activity of the glucosides in old and in fresh leaves.—Merck's Arch., N. Y., 1907, v. 9, p. 62.

Kiliani, H., discusses the chemistry of digitoxin and records experiments made to determine the accuracy of Cloetta's statement that amorphous digitoxin represents one-half the molecular formula of the crystalline variety which Kiliani has demonstrated to be

$C_{28}H_{46}O_{10}$.—Ber. d. deutsch. chem. Gesellsch., 1907, v. 40, III, pp. 2996–2998.

Brissemoret and Derrien (Bull. gen. de Therap., 1907, v. 153, p. 382) discuss Kiliani's digitalis reaction and outline a new test which depends on the use of a mixture of acetic acid and a 4 per cent solution of oxalic acid neutralized with sodium amalgam and in which the glucoside is dissolved; the mixture is then underlaid with sulphuric acid and with crystalline digitalin yields a green and with digitalein a carmine red color. Digitonin does not react with this test.—Chem. Repert., Cöthen, 1907, v. 31, p. 198.

Huchard, H., presents a defense of the crystalline digitalin of Nativelle, which is considered to be superior to all the so-called active principles of digitalis and to the crude drug itself.—Bull. d. sc. pharmacol. Par., 1907, v. 14, pp. 105–114.

Petit discusses the solubility of crystalline digitalein. (Répert. de pharm. Par., 1907, v. 19, p. 329.) He finds that a solution of 1/15000 remains limpid after sterilization at 120° in ampoules.—J. de pharm. et de chim. Par., 1907, v. 261, p. 42.

The inspectors of pharmacies assert that "digitaline" has not been included in the pharmacopœia because of its variable composition and great activity. They consider the product to be eminently dangerous.—Ann. de pharm., Louvain, 1907, v. 13, p. 326.

Focke, C., points out the need for regulating the temperature in the physiological standardization of digitalis, and outlines the methods devised by him for accomplishing the same.—Arch. d. Pharm., 1907, v. 245, pp. 645–656.

An unsigned article quotes Stevens, Caldwell and three manufacturers as giving the percentage of alcohol in the official fluid extract of digitalis as 48.9, 48, 40, 50, and 35 per cent, respectively.—Drug. Circ., N. Y., 1907, v. 51, p. 319.

Philipp Röder Wien, reports that the specific gravity of 5 samples of tincture of digitalis varied from 0.9040 to 0.9100 and that the extract content varied from 3.01 to 3.75 per cent.—Ztschr. d. Allg. österr. Apoth.-Ver., Wien, 1907, v. 45, p. 285.

Niece, Frederic E., outlines a color reaction test for the identity of tincture of digitalis.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 482.

Cæsar and Loretz (Geschäfts Ber., 1907, p. 72) reiterate the frequently made statement that carefully dried and preserved digitalis leaf is more stable than the tincture or other liquid preparation.

V. Bókay, A., (Berl. Tierärztl. Wochenschr.) recommends the use of a preparation of digitalis made by allowing the drug to macerate in cold water for three hours, in preference to infusion, as the former has the advantage of precluding possible decomposition by heat.—Jahresb. d. Pharm., Göttingen, for 1907, 1908, v. 42, p. 336.

An abstract (from Mediz. Klinik) points out that the old time warning that alkali is incompatible with infusion of digitalis is misleading, and mild alkalies like sodium bicarbonate tend to preserve the preparation.—D.-A. Apoth.-Ztg., N. Y., 1907, v. 28, p. 53.

An abstract points out that the chemical incompatibilities are metallic salts and astringent decoctions. The physiological incompatibilities are of different natures. Those that have a tendency to close the kidneys and, consequently, hinder the elimination of digitalis. These are antipyrine, belladonna, and opium. Secondly, those that enfeeble the heart beats, as quinine and its salts. Finally, those that have a vascular or vaso dilator action and lower the blood pressure, as trinitrine, the iodides, etc.—Drug Topics, New York, 1907, v. 22, p. 100.

Friedländer, Richard, reviews the history of digitalis, its use as a household remedy and its introduction into the regular practice of medicine.—Therap. Monatsh., Berl., 1907, v. 21, pp. 173-175.

An unsigned abstract points out that the literature of digitalis dates back to 1785, when Withering first published his observations on the use of this drug. The influence of this drug on the action of the heart was not recognized until described by Blake, in 1839, and further explained by Traube some twelve years later.—D.-A. Apoth.-Ztg., N. Y., 1907, v. 28, p. 28.

An abstract from the *Hospital* points out that in many cases in which digitalis is needed the conditions are too urgent to allow time for experimenting on the patient to find out whether this or that sample of digitalis is the more active. The activity of any given sample should be known with certainty beforehand. In other words, the preparations of digitalis to be ideal should be standardized.—Chem. & Drug., Lond., 1907, v. 70, p. 527.

An editorial discusses the efficiency of digitalis preparations, and points out that although digitalis is one of the most valuable and widely used drugs, its administration is accompanied by so many uncertainties that it has fallen greatly in medical estimation.—Med. Rec., N. Y., 1907, v. 71, p. 356.

Edmunds, Charles Wallis, presents a study on the influence of digitalis, strophanthus, and adrenalin upon the velocity of the blood current.—Am. J. Physiol., Bost., 1907, v. 18, pp. 129-148.

Fraenkel, Albert, discusses the cumulative action of digitalis, and points out that digalen does not differ in this respect from the other well-known digitalis principles.—Arch. f. Path. u. Pharmakol. Leipz., 1907, v. 57, pp. 123-130.

In discussing the internal administration of digitalis he asserts that the powdered leaf appears to be preferable to any of the available preparations.—*Ibid.*, v. 57, pp. 131-136.

Additional references on the use of digitalis will be found in the Index Medicus and the J. Am. M. Ass.

ELASTICA.

Harries, C., discusses the occurrence of properties of rubber and also its composition and the efforts that have been made to produce it synthetically.—Ztschr. f. ang. Chem. Berl., 1907, v. 20, pp. 1265–1271.

Jones, J., (West Indian Bulletin, v. 7, pp. 16–20) reports experiments and observations on rubber yielding plants in Dominica. He concludes that the Central American rubber tree, *Castilloa elastica*, is best adapted to cultivation in Dominica, and can be utilized as shade for cacao.—Bot. Centralbl., 1907, v. 105, p. 480.

Dunstan, Myndham, discusses the chemical problems connected with the production of rubber, of caoutchouc, and the available supply of rubber and the possible development of new sources.—Bull. Dept. Agric., Jamaica, 1907, v. 5, pp. 34–37.

Ridley, H. N., presents some notes on the paper by Dunstan, and points out that synthetic rubber has long been the bogey of would-be investors of rubber. He believes that it is hardly probable that any substance will be found which is readily converted into rubber at a cheaper rate than the natural products now available.—*Ibid.*, v. 5, pp. 37–39.

Olsson-Seffer, Pehr, presents some observations on rubber planting in Mexico and Central America; discusses the name “castilla,” and records the efforts that are being made in the cultivation of this plant in Mexico.—*Ibid.*, v. 5, pp. 191–223.

Additional references on the cultivation of rubber will be found in Bot. Centralbl. and in the Exp. Sta. Record.

ELATERINUM.

Cohn, Alfred L., thinks it unnecessary to have a special formula for a trituration of elaterin since the formula for this in no wise differs from the general formula for “Triturationes.”—Proc. New York Pharm. Ass., 1907, p. 235.

ELIXIRIA.

Blair, Henry C., points out that the use of aromatic elixir in so many of the elixirs in the N. F. gives them an undesirable sameness.—Am. J. Pharm., Phila., 1907, v. 79, p. 245.

Scoville, W. L., calls attention to some changes in the formulas for elixirs in the N. F. which he considers improvements.—Drug. Circ., N. Y., v. 51, p. 294.

Hommell, P. E., believes that a number of N. F. elixirs should become official in the U. S. P.—Proc. New Jersey Pharm. Ass., 1907, p. 17.

ELIXIR ADJUVANS.

Mittelbach, Wm., thinks the utility for a formula for adjuvant elixir may not be quite clear, since it is only a simple admixture, and the physician can just as well write for the ingredients.—*Proc. Missouri Pharm. Ass.*, 1907, p. 130.

ELIXIR APII GRAVEOLENTIS COMPOSITUM N. F.

Caldwell, Paul, says that 1 ounce of compound elixir of celery contains one-sixteenth grain of cocaine and 41 per cent of alcohol.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 204.

ELIXIR AROMATICUM.

A contributor to the "Pharmacology" column calls attention to the numerous vehicles, including aromatic elixir, and coloring agents in the Pharmacopœia and the National Formulary.—*J. Am. M. Ass.*, 1907, v. 48, p. 1046.

The Eclectic M. J. Cincin., 1907, v. 67, p. 193, quotes an article from the New York Medical Journal on the perils of the aromatic elixir.

ELIXIR CATHARTICUM COMPOSITUM N. F.

Beringer, George M., compares the cathartic elixir of the N. F. III with that of the N. F. II and points out that they are quite dissimilar. He thinks the new formula should have been introduced under an entirely different title.—*Proc. New Jersey Pharm. Ass.*, 1907, p. 73.

Wilbert, M. L., points out that the amount of saccharin in compound cathartic elixir is impractical, and even when reduced to one-tenth the amount is still unpleasantly prominent.—*Am. J. Pharm.*, Phila., 1907, v. 79, p. 211.

Seoville, W. L., asserts that the quantity of saccharin directed in the formula of compound cathartic elixir, N. F., will make a nauseating elixir. Half a gm. of saccharin is as much as can be used in 1,000 cc. to be agreeable.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 294.

ELIXIR CHLOROFORMI COMPOSITUM N. F.

Beringer, George M., points out that this is not an elixir in the modern acceptation of that term.—*Am. J. Pharm.*, Phila., 1907, v. 79, p. 360.

Caldwell, Paul, says that 1 ounce of compound elixir of chloroform contains 1½ drams of chloroform, 9 grains of powdered opium, and 62 per cent of alcohol.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 204.

ELIXIR CINCHONÆ N. F.

Good, James M., believes that the elixir of cinchona is a convenient preparation and should be popular with druggists. It takes the place

of detannated elixir of cinchona and is easily and quickly prepared.—Meyer Bros. Drug., St. Louis, 1907, v. 28, p. 131.

ELIXIR COCÆ N. F.

Caldwell, Paul, points out that 1 ounce of elixir of coca contains one-eighth grain of cocaine and 31 per cent of alcohol.—Drug. Circ., N. Y., 1907, v. 51, p. 204.

ELIXIR COCÆ ET GUARANÆ N. F.

Caldwell, Paul, points out that 1 ounce of elixir of coca and guarana contains one-eighth grain of cocaine and 36 per cent of alcohol.—Drug. Circ., N. Y., 1907, v. 51, p. 204.

ELIXIR CURASSAO N. F.

Blair, H. C., criticises the present N. F. formula for elixir curassao and suggests a formula which he believes yields a preparation more like the original in appearance, color, odor, and taste.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 185.

He asserts that curaçao oil of orange is not a commercial article.—Am. J. Pharm., Phila., 1907, v. 79, p. 245.

ELIXIR DIGESTIVUM COMPOSITUM N. F.

Good, James M., calls attention to the compound digestive elixir and points out that the therapeutic incompatibility of pepsin and pancreatin was pointed out some years ago by a member of a firm of manufacturers who are considered good authority. He also calls attention to the report of the Council on Pharmacy and Chemistry of the American Medical Association.—Meyer Bros. Drug., St. Louis, 1907, v. 28, p. 131.

Wilbert, M. I., calls attention to the report of the Council on Pharmacy and Chemistry (J. Am. M. Ass., Feby. 9, 1907) on mixtures containing pepsin and pancreatin and the recommendation that the formula for elixir digestivum be deleted from the N. F.—Am. J. Pharm., Phila., 1907, v. 79, p. 208.

Sollmann, Torald, comments on the absurdity of mixing the digestive ferments in solution, and says:

If the solution is acid (as in the Elixir Digestivum Compositum of the National Formulary and most of the proprietary digestant mixtures) the trypsin and diastase will be destroyed; if it is alkaline, the pepsin and diastase will disappear, and if, as a last resort, it is made neutral, the pepsin will destroy the diastase, and the pepsin, in its turn, will be digested by the trypsin.—J. Am. M. Ass., 1907, v. 48, p. 416.

Seoville, W. L., states that the Council on Pharmacy of the American Medical Association has condemned all combinations of pepsin

and pancreatin, and will request the American Pharmaceutical Association to dismiss this preparation from the National Formulary. Scientifically the mixture is absurd, and its use should be discouraged. The same is true of compound powder of pepsin.—*Drug. Circ., N. Y., 1907, v. 51, p. 294.*

ELIXIR FERRI, QUININÆ, ET STRYCHNINÆ PHOSPHATUM.

Cohn, Alfred I., thinks that the formula for the elixir of the phosphates of iron, quinine, and strychnine contains an unnecessarily large number of ingredients and necessitates a complicated method of manipulation. He presents a formula used by him for years, which he thinks is more simple and yields a satisfactory product.—*Proc. New York Pharm. Ass., 1907, p. 233.* (See also *Am. Druggist, N. Y., 1907, v. 51, pp. 5, 106.*)

Raubenheimer, Otto, discusses Cohn's formula for elixir of the phosphates of iron, quinine, and strychnine, and points out that the resulting preparation would not be identical with the U. S. P. product. He believes that while the U. S. P. formula requires a little pharmaceutical skill, it is readily followed and yields a satisfactory product.—*Am. Druggist, N. Y., 1907, v. 51, pp. 70, 275.*

Dawson, Edward S., believes that the formula and working process for the elixir of the phosphates of iron, quinine, and strychnine, when carefully followed, yield a product that is pharmaceutically elegant and easily superior to the product yielded by other formulas. The working process is somewhat complex, and must be carefully and exactly followed if a reasonably permanent product is desired.—*Proc. New York Pharm. Ass., 1907, p. 222.*

Thielke, Paul, opines that the formula for elixir of iron, quinine, and strychnine phosphates is satisfactory, but that the directions are not. He suggests that they may be made to read:

Dissolve the quinine and strychnine in the alcohol. Mix the phosphoric acid with 350 cc. of aromatic elixir. Into this mixture (acid phosphoric and aromatic elixir) slowly pour the alcoholic solution of the alkaloids, previously prepared, under constant stirring.—*Drug. Circ., N. Y., 1907, v. 51, p. 423.*

Klenze, W. T., thinks the principal fault with the elixir of iron, quinine, and strychnine phosphate is the change of color on keeping and the difficulty of its preparation without the formation of precipitate. The change in color appears to be due to impurities in the iron salt. He recommends that the iron phosphate be freshly made from solutions of iron citrate and sodium phosphate.—*Bull. Am. Pharm. Ass., Chicago, 1907, v. 2, p. 380.*

ELIXIR GENTIANÆ GLYCERINATUM N. F.

Seoville, W. L., states that the formula submitted by the committee for glycerinated elixir of gentian N. F., called for ground gentian and

taraxacum roots instead of the fluid extracts, but the latter were substituted in the text because of a suggestion that the preparation is more easily made from them.—Drug. Circ., N. Y., 1907, v. 51, p. 294.

Cliffe, W. L., asserts that the N. F. formula for glycerinated elixir of gentian directs less gentian than the one furnished by him a few years ago. (Am. J. Pharm., v. 70, p. 201.)—Am. J. Pharm., Phila., 1907, v. 79, p. 244.

Ferrel, O. L., expresses the belief that ground gentian and taraxacum are to be preferred to the respective fluid extracts in making this preparation.—Proc. Texas Pharm. Ass., 1907, p. 74.

Wilbert, M. L., asserts that the amount of saccharin in elixir of gentian, glycerinated is excessive, even nauseating.—Am. J. Pharm., Phila., 1907, v. 79, p. 211.

Klenze, W. T., points out that the faults of the National Formulary preparation appear to be the use of too much saccharin and too little acetic ether.—Bull. Am. Pharm. Ass., Chicago, 1907, v. 2, p. 380.

Apple, F. M., presents an improved formula for elixir gentianæ glycerinatum N. F.—Proc. Pennsylvania Pharm. Ass., 1907, pp. 115–117.

In answer to a correspondent Dr. Eli E. Josselyn, of Philadelphia, is quoted as furnishing a formula for a glycerin tonic used by Dr. John P. Gray, of Utica, which contained fluid extract of cinchona 3 drachms, diluted phosphoric acid 10 drachms, glycerin 4 ounces, sherry wine 10½ ounces.—Drug. Circ., N. Y., 1907, v. 51, p. 540.

ELIXIR GLYCEROPHOSPHATUM N. F.

Cliffe, W. L., says the N. F. formula for elixir of glycerophosphates does not yield as satisfactory a preparation as that marketed by manufacturers. He finds that by replacing the aromatic elixir with white wine the tendency to become terebinthinate is overcome; also advises to increase the amount of phosphoric acid.—Am. J. Pharm., Phila., 1907, v. 79, p. 244.

Scoville, W. L., states that the use of an aromatic elixir made with wine (125 cc. per 1,000) or the addition of about 50 cc. of wine to the formula of elixir of glycerophosphates will greatly improve this preparation.—Drug. Circ., N. Y., 1907, v. 51, p. 294.

Referring to the above abstract the editor of the Druggist Circular thinks it well to avoid making medicines so palatable with wine that their use may be unnecessarily prolonged, or a taste for wine engendered.—*Ibid.*, 1907, v. 51, p. 294.

Dunning, H. A. B., asserts that it is necessary to use the acid glycerophosphate of calcium to make a permanent solution according to the formula for elixir of glycerophosphates.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 131.

Whitney, D. V., presents a formula and outlines a method for making a compound elixir of glycerophosphates.—*Proc. Missouri Pharm. Ass.*, 1907, pp. 109–110.

Prunier, G., contributes a study on the etherification of phosphoric acid by means of glycerin and the production of glycerophosphates.—*Bull. de la Soc. de chim. de France, Par.*, 1907, v. 1, pp. 1046–1048.

Blome, Walter H., (com. on adulterations) reports examining potassium glycerophosphate containing chloride.—*Proc. Michigan Pharm. Ass.*, 1907, p. 70.

An editorial points out that "Medicine" for December, 1906, contains an article by Alfred Gorden, which emphasizes the value of phosphorus in the form of glycerophosphates in the treatment of asthenia and allied conditions. It is probable that this drug and its preparations have not been used as frequently as its merits would warrant.—*Pacific Pharm.*, San Francisco, 1907–8, v. 1, p. 89.

ELIXIR HYPOPHOSPHITUM N. F.

Dunning, H. A. B., asserts that the original formula for elixir of hypophosphites directs an insufficient amount of water, to dissolve the calcium salt; the revised formula, 420 cc. of water, is more nearly correct.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 131.

ELIXIR PARALDEHYDI N. F.

Dunning, H. A. B., points out that elixir of paraldehyde N. F., requires a larger percentage of alcohol to prevent the formation of two layers.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 131.

Caldwell, Paul, says that 1 ounce of elixir of paraldehyde contains 2 drams of paraldehyde and 39 per cent of alcohol.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 204.

ELIXIR PICIS COMPOSITUM N. F.

Caldwell, Paul, says that one ounce of compound elixir of tar contains $5/32$ grains of morphine sulphate and 17 per cent of alcohol.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 204.

ELIXIR TERPINI HYDRATIS N. F.

Dunning, H. A. B., asserts that sugar crystallizes out from the N. F. elixir of terpin hydrate only when the syrup is made stronger than the official.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 130.

Seoville, W. L., states that elixir of terpin hydrate N. F. will deposit the terpin hydrate if chilled. When this occurs it can be restored by warming. It will not remain clear below 60° F. In

accordance with the rules of the formulary, coloring agents are generally avoided in elixirs, but in the cases of elixir of terpin hydrate with codeine and elixir of terpin hydrate with heroin, Nixon has suggested that these resemble the plain elixir of terpin hydrate in appearance and taste so closely as to be practically indistinguishable, and a distinguishing color for the two that contain alkaloids is very desirable. The point is well taken.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 294.

Blair, Henry C., criticises the N. F. formula for elixir of terpin hydrate, the sugar crystallizing out of the strongly alcoholic solution.—*Am. J. Pharm.*, Phila., 1907, v. 79, p. 245.

Morgan, H. D., (*Pacific Pharm.*, Nov., 1907, 349-352) recommends the following formulas for preparing elixir of terpin hydrate: Terpin hydrate, 128 grains; glycerin, 8 ounces; and alcohol, 8 ounces. Dissolve the terpin hydrate in the glycerin by aid of heat, then add the alcohol gradually and mix. In this way the loss of alcohol is lessened. Elixir of terpin hydrate and codeine sulphate is made in the same way, dissolving in the glycerin 16 grains of codeine sulphate. Elixir of terpin hydrate and heroin is made by dissolving $5\frac{1}{2}$ grains of heroin hydrochloride, along with the terpin hydrate, in the glycerin, and substituting one-half ounce of tincture of vanilla for the same quantity of alcohol.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 72.

ELIXIR TERPINI HYDRATIS CUM CODEINA N. F.

Scoville, W. L., points out that in accordance with the rules of the formulary coloring agents are generally avoided in elixirs, but in the cases of elixir of terpin hydrate with codeine and elixir of terpin hydrate with heroin, Nixon has suggested that these resemble the plain elixir of terpin hydrate in appearance and taste so closely as to be practically indistinguishable, and a distinguishing color for the two that contain alkaloids is very desirable. He asserts that the point is well taken.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 294.

EMPLASTRA.

Pinchbeck, G., reports a study of the bacteriology of plasters and protective tissues, and calls attention to the need for greater care in rendering these preparations more perfect from a pharmaceutical and bacteriological standpoint. He concludes from his investigations that all plasters, unless sterilized, are septic, and that the degree of sterility is diminished by atmospheric exposure. In the second part of his paper he discusses sterilization by heat, with solvents, chemical sterilization, and fractional sterilization.—*Pharm. J.*, Lond., 1907, v. 25, pp. 122-126.

EMPLASTRUM PLUMBI.

Eberle, A. R., suggests preserving lead plaster under water to prevent the surface oxidation which always takes place.—Proc. Wisconsin Pharm. Ass., 1907, p. 67.

Warner, H. F. (Lancet, Lond., July 13), reports a case of acute lead encephalopathy following the use of diachylon pills as an abortifacient.—J. Am. M. Ass., 1907, v. 49, p. 526.

EMULSA.

LaPierre, E. H., discussing the U. S. P. emulsions, points out that the official emulsion of cod liver oil is so thick that when administered to patients it adheres to the mouth and tongue, causing, in many cases, nausea and an aversion to the remedy which is often to be continued for a long time. He exhibited a sample of the emulsion carrying 50 per cent of oil but made with two-thirds of the gum directed. Another sample of the same emulsion was shown containing a small amount of salt; this was found to increase palatability more than aromatic oils.—Bull. Am. Pharm. Ass., Chicago, 1907, v. 2, p. 149.

Koehler, A. P., (Schweiz. Wochschr. 45, 284) discusses the characteristics of true and false emulsions. For the preservation of emulsions he states that glycerol prevents decomposition of the aqueous portion, and ethereal oil that of the fat. He recommends benzaldehyde as especially useful for the latter purpose.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 1895.

Royce, S., presents some observations on emulsifiers and emulsifications and points out that emulsifying agents are mostly of a colloidal nature, whether we use albuminous bodies, such as casein or yolk of egg, or mucilaginous bodies, such as gums acacia and tragacanth, or use saponaceous agents, like the soaps or saponin which is contained in quillaia or senega. He records some experiments on the separation of the emulsion and points out that the weaker emulsion separates more rapidly.—Chem. & Drug., Lond., 1907, v. 70, pp. 137-138. (See also Merck's Report, N. Y., 1907, v. 16, pp. 96-97.)

An unsigned article discusses the making of emulsions by means of alkali or soap and gives a number of type formulas.—Pharm. J., Lond., 1907, v. 24, pp. 720-721.

An unsigned article discusses the making of emulsions and gives several type formulas.—The Spatula, 1907-8, v. 14, pp. 175-177.

Bourdier, L., has experimented with various emulsifying agents, such as *egg yolk*, *tragacanth*, *lime water*, *casein*, and *soap*, and gives the results of his experiments.—J. de Pharm. et de chim. Par., 1907, v. 26, pp. 201-205.

An abstract describes and figures a machine for making emulsion in large quantities.—Am. Druggist, N. Y., 1907, v. 51, p. 336.

EMULSUM OLEI MORRHUÆ.

Walter, E., discusses the directions for the preparation of emulsion of cod liver oil. He believes that tragacanth is less desirable than acacia; also points out that alcohol is a more desirable preservative than glycerin. Gualtheria he believes to be objectionable as a flavoring ingredient and asserts that Germans at least prefer anise or lemon as a predominant flavor.—*J. d. Pharm. von Elsass-Lothringen*, 1907, v. 33, pp. 294-296.

Dawson, Edward S., points out that while the official process looks easy of manipulation failure may result from too strict adherence to the pharmacopœial directions. He advises rubbing the powdered acacia with half of the volume of cod liver oil specified in the formula and adding to this mixture at once all of the required water and triturating rapidly until the oil is thoroughly emulsified, and then adding the balance of the oil in small portions, triturating each portion until fully emulsified.—*Proc. New York Pharm. Ass.*, 1907, p. 222.

EMULSUM PETROLEI N. F.

Hommell, P. E., thinks emulsion of petroleum should become official; it is an invaluable preparation, especially with the hypophosphites, given internally. It gives good results in the treatment of pulmonary troubles.—*Proc. New Jersey Pharm. Ass.*, 1907, p. 62.

Scoville, W. L., states that yellow petrolatum is better for emulsion of petroleum N. F. than white; it makes a more creamy emulsion. To make it succeed commercially some calcium or sodium hypophosphite should be added.—*Drug. Circ., N. Y.*, 1907, v. 51, p. 294.

EPINEPHRINA.

Maben, T., gives a historical account of adrenalin and epinephrin together with arguments why this principle, if made an official drug in the next *Ph. Brit.* should be known by the name adrenalin.—*Pharm. J. Lond.*, 1907, v. 24, pp. 388-392.

"Gnomon" asserts that it is gratifying to learn that no proprietary rights are claimed in the word "adrenalin," since that term is obviously a most suitable one for application to the active constituent of the adrenal substance, and is now widely used.—*Ibid.*, v. 24, p. 432.

Martin, William, discusses the respective desirability of adopting the name epinephrin or adrenalin and expresses the hope that the work of Professor Abel will receive a well-deserved recognition by the name he gave to the substance being selected as its official designation.—*Ibid.*, v. 24, p. 447.

Maben, Thomas, discusses the proposed use of epinephrin in place of adrenalin as the name for the blood pressure raising principle of the suprarenal capsules, and points out that the substance to which the name epinephrin was applied in the early period is not the same as the epinephrin of the present day.—*Ibid.*, v. 24, pp. 482-483.

Martin, William, in replying to the comment by Maben points out that Professor Abel's papers are recognized as being the earliest definite records of continuous research on the subject of the vasoconstrictor element of the suprarenal capsules.—*Ibid.*, v. 24, p. 514.

Kwisda, A., reviews the progress that has been made in our knowledge of the chemistry of the alkaloid of the suprarenal gland during the year 1906.—*Pharm. Post*, Wien, 1907, v. 40, p. 182.

Sohn, Charles E., presents a review of the investigations that have been made on the composition of adrenalin and adrenalin-like bodies, and the production of synthetic compounds of this type.—*Pharm. J. Lond.*, 1907, v. 24, p. 623.

Turner, Joseph L., reviews the progress that has been made in synthesis of adrenalin.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, pp. 449-457.

An unsigned article describes a synthetic suprarenin marketed in Germany.—*Pharm. Ztg.*, Berl., 1907, v. 52, p. 466.

Krull, K. (*Pharm. Weekbl.*, 1906, v. 43, p. 1208), gives the following test for the identity of adrenalin: Several drops of a (1:1000) solution of adrenalin mixed with 1 drop each of solution of copper sulphate and solution of potassium cyanide produce a characteristic red color.—*Jahresb. d. Pharm. Göttingen*, 1907-8, v. 42, p. 236.

Gunn and Harrison outline a new characteristic reaction of adrenalin, depending on the generation of a red-brown color when adrenalin is treated with a solution of caustic potash or soda. This color reaction is accompanied by an odor resembling in a remarkable way that of phosphoretted hydrogen.—*Pharm. J. Lond.*, 1907, v. 24, p. 718.

Finnemore, Horace, discusses the new test for adrenalin outlined by Gunn and Harrison, and asserts that the odor to which they call attention is that of methylamine and that if one adds to the reaction mixture, in a test tube, two drops of chloroform, and warms, the characteristic smell of methyl-isocyanide is readily obtained according to the well-known reaction $\text{CH}_3\text{NH}_2 + \text{CHCl}_3 = \text{CH}_3\text{NC} + 3\text{HCl}$. The smell of the isocyanides is even more penetrating and characteristic than that described by the authors noted above.—*Ibid.*, v. 24, p. 768.

Several additional comments on the characteristic test for adrenalin, noted by Gunn and Harrison, are presented.—*Ibid.*, v. 24, p. 796.

"Gnomon" calls attention to some of the more recent work published in connection with the pharmacy of the active principle of the

suprarenal gland, also to the fact that this principle is an extremely delicate test for the presence of minute traces of iron.—*Ibid.*, v. 25, p. 214.

Gunn and Harrison give formulas for the making of pharmaceutical preparations of adrenalin and also outline tests for the preparations.—*Ibid.*, v. 25, p. 310.

Finnemore, Horace, presents a formula for solution of adrenalin to which a small proportion of sulphurous acid has been added to prevent discoloration.—*Ibid.*, v. 24, p. 586.

A communication from Parke, Davis & Co. points out that sulphurous acid has all along been known to prevent the coloration of solutions of adrenalin chloride, but it is not equally certain that it will also prevent the deterioration of the blood-pressure-raising principle. When two such energetic substances as adrenalin and sulphurous acid are brought into contact it is a chemical necessity that one or other of them, and in all probability both, should undergo change.—*Pharm. J., Lond.*, 1907, v. 24, p. 683.

Grübler, M., points out that adrenalin solutions may be sterilized, providing care is exercised in the selection of a container, as the alkaloid is readily decomposed by free alkali.—*Pharm. Post, Wien*, 1907, v. 40, p. 581.

An editorial calls attention to the amount of discussion that has been caused by the active constituent, or blood-pressure-raising principle, of the suprarenal gland.—*Pharm. J., Lond.*, 1907, v. 24, pp. 774-775.

Flury, Ferdinand, reviews some of the recent publications on the constitution of the active principle of the suprarenal gland on the production of this substance in the organism and the possible production of an adrenalin-like body synthetically.—*Ztschr. f. ang. Chem., Berl.*, 1907, v. 20, p. 615.

Gioffredi, Carlo, discusses the destruction of adrenalin in the organism.—*Arch. farmacol. sper., Roma*, 1907, v. 6, pp. 127-161.

Rogée, H., discusses the use of adrenalin in connection with local anesthetics and reviews some of the literature relating to its use in this connection.—*Pharm. Zentralh.*, 1907, v. 48, p. 204.

Falk, Fritz, discusses the structural changes produced in the blood vessels of rabbits by the injection of adrenalin, reports some experimental work, and presents a compilation of the literature that has accumulated.—*Ztschr. f. exper. Path. u. Therap.*, 1907, v. 4, pp. 360-388.

Crawford, Albert C., discusses the uses of suprarenal glands in the physiological testing of drug plants, also discusses the separation of the active principle of the suprarenal gland, and presents a bibliography of the literature relating to the development of this principle.—*Bull. Bur. Plant Ind., Dept. Agric.*, 1907, No. 112, pp. 7-32.

Buchanan, Drysdale T., points out that adrenalin, by contracting the capillaries, raises the blood pressure. This contractile power when exercised upon the coronary arteries produces an anemia of the heart muscle, with instant relaxation of the systolic contractions.—Tr. Am. Inst., Homœop., 1907, 63d session, p. 619.

See also under *Glandulæ Suprarenales Siccæ*.

Additional references on the chemistry and on the use of epinephrin will be found in the *Index Medicus*, the *J. Am. M. Ass.*, and in *Chemical Abstracts*.

ERGOTA.

Nelson, Burt E., describes and figures the structural characteristics of ergot and enumerates its various constituents.—Merck's Report, N. Y., 1907, v. 16, p. 163.

Zimmermann (*Ztschr. f. Pflanzenkrankheiten*, v. 16, pp. 129–131) reports results of experiments to determine the germinative qualities of old samples of ergot. He concludes that sclerotium of *Claviceps purpurea* is capable of germinating even after keeping for two years.—Chem. Centralbl., 1907, v. 104, p. 290.

The Ph. Dan. VII gives *secale cornutum*, syn. *Ergotum secale* as the official title for ergot.

Gordin, H. M., discusses the progress made in the chemistry of ergot during the year 1906.—Pharm. Rev., Milwaukee, 1907, v. 25, pp. 341–345.

Puckner, W. A., calls attention to the work done during 1906 as to the question "is the activity of ergot due to an alkaloid" and whether, therefore, the valuation of ergot may be based on its alkaloid contents.—*Ibid.*, v. 25, p. 323.

An editorial points out that ergot is a structural compound that has never yielded to the chemist anything that takes the place of ergot. The so-called ergotine of the market is simply a purified extract of ergot, and sometimes not well purified.—Paint, Oil, and Drug Rev., Chicago, 1907, v. 43, May 8, p. 25.

Barger, Carr, and Dale describe an active alkaloid which they have separated from ergot to which they have given the name ergotoxine. They call attention to the properties which differentiate it from ergotinine, the alkaloid separated from ergot by Tanret.—Pharm. J., Lond., 1907, v. 24, p. 24.

They report (*Brit. Med. J.*) that the newly isolated alkaloid ergotoxine is extremely active physiologically, 0.0005 to 0.001 gm. given intravenously to a cat causes a large and long-continued rise of blood pressure, succeeded by vasomotor reversal.—Bot. Centralbl., 1907, v. 104, p. 469.

Barger and Carr discuss the alkaloids of ergot, reviewing briefly the literature, and give the results of their own work.—J. Chem.

Soc., Lond., 1907, v. 91, pp. 337-353. (See also Pharm. J., Lond., 1907, v. 24, p. 520.)

Barger, G., corrects a former statement and now agrees with Kraft that ergotoxin (hydroergotinin) is converted by boiling methyl alcohol into ergotinin.—Arch. d. Pharm., 1907, v. 245, p. 235.

Kraft, F., corroborates an observation made by Barger and Carr that hydroergotinin (ergotoxine) may be made to yield crystalline salts.—*Ibid.*, v. 245, pp. 644-645.

An unsigned article reviews the article by Kraft (Arch. d. Pharm., 1906), and points out the several stages of development in our knowledge of the chemistry of ergot.—Suedd. Apoth. Ztg., 1907, v. 47, p. 42.

An editorial points out that there is still considerable uncertainty as to the exact chemistry and physiological activity of the active constituents of ergot. The crystalline alkaloid ergotinine is chemically closely related to the amorphous alkaloid ergotoxine. Ergotoxine is supposed to possess to a high degree the physiological properties of the drug. Wenzell, who began his studies of the active constituents of ergot about thirty years ago, is still continuing his chemical investigations.—Pacific Pharm., San Francisco, 1907-8, v. 1, p. 87.

Cæsar and Loretz (Geschäfts. Ber., 1907, pp. 104-106 (discuss a qualitative test for and a quantitative estimation of cornutin in ergot.

Fernau, Albert, reports experiments to determine the presence of sclererythrin in the extract preparations of ergot, and points out that the presence of this substance will give an indication of the method followed in the making of the preparation.—Pharm. Post., Wien, 1907, v. 40, pp. 133-134.

Dohme, A. R. L., asserts that the quality of the available ergot is far from being satisfactory, the majority of the available samples varying between 0.10 and 0.18 per cent of cornutin; he also expresses the belief that the cornutin content of ergot is not a satisfactory indication of its activity.—D.-A. Apoth.-Ztg., N. Y., 1907, v. 28, p. 133.

Blome, Walter H., (com. on adulterations) reports that ergot is generally of very fair quality, though some very inferior drug finds its way into the market.—Proc. Michigan Pharm. Ass., 1907, p. 68.

Cæsar and Loretz (Geschäfts. Ber., 1907, p. 51) report that during the year even the better grades of ergot did not exceed 0.250 to 0.279 per cent of cornutin, and that some of the samples examined contained as low as 0.104 to 0.180 per cent.

Bührer, C., points out that the formula for preparing extract of ergot by extracting the drug with water and treating the resulting

extractive with alcohol has been adopted by all recently published pharmacopœias with the single exception of the U. S. P.—Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich, 1907, v. 45, p. 419.

Greenish, Henry G., points out that the international agreement requires the aqueous extract to be treated with 60 per cent alcohol. All the pharmacopœias, except the U. S. P., comply practically with this requirement. The U. S. P. makes, however, no attempt to bring its formula into line.—Pharm. J. Lond., 1907, v. 24, p. 832.

Gane, E. H., points out that ergot yields from 14 to 22 per cent, average 18 per cent, of extractive to the official menstruum and that the resulting fluid extract contains approximately 34.2 per cent by weight or 41 per cent by volume of absolute alcohol. Distilled, 40.52 per cent by volume.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 319.

Dulière, Walter, discusses the preparation of fluid extract of ergot and points out the difficulty of exhausting the fat containing powder with 20 per cent alcohol. He recommends the preliminary removal of the fat.—J. de pharm. d'Anvers, 1907, v. 63, pp. 601-602.

Philipp Röder (Jahresbericht, Wien, 1907, p. 51), examined 5 samples of fluid extract of ergot, 2 of which were found to contain less than 20 per cent of dried residue required by the pharmacopœia.

Lisin, F., reports experiments and observations on the influence of ergot on the cardio-vascular system.—Arch. internat. de Pharmacod. et de Thérap. 1907, v. 17, pp. 475-480.

Kinyon, C. B., asserts that "Secale cor." is a remedy greatly abused by the old school. It is indicated in a variety of conditions particularly when the lochia are frequently suppressed, thin, dark, and offensive. This is a condition which calls for extreme watchfulness, as it is frequently the forerunner of uterine inflammation.—Tr. Am. Inst. Homœop., 1907, 63d session, p. 391.

Watkins finds most frequent use for ergot, not as an oxytocic, but to control hæmorrhage when he combines it with tincture of oil of cinnamon and when there is pain with morphia.—Eclectic M. J., Cincin., 1907, v. 67, p. 69.

Additional references on the use of ergot will be found in the Index Medicus and the J. Am. M. Ass.

ERIODICTYON.

Mossler, Gustav, reports some work on the composition of eriodictyon glutinosum, the distillation of this drug with steam, the examination of the petroleum benzin extract, the ether extract, the examination of the crystalline body, and its behavior with certain reagents.—Ztschr. d. allg. österr. Apoth.-Ver., Wien, 1907, v. 45, pp. 135-137, 147-149, 163-165.

Thomann reviews the observations by Mossler on the constituents of *Eriodictyon glutinosum* Benth., and suggests the need for addi-

tional work on this now widely used drug.—Schweiz. Wehnschr. f. Chem. u. Pharm. Zürich, 1907, v. 45, p. 282.

Power and Tutin report on the constitution of homo-eriodictyol, a crystalline substance from eriodictyon leaves.—J. Chem. Soc. Lond., 1907, v. 91, pp. 887-896.

ESSENTIA PEPSINI N. F.

Ferrel, O. L., expresses the belief that essence of pepsin would be more active if it contained a smaller per cent of alcohol in the finished product.—Proc. Texas Pharm. Ass., 1907, p. 74.

Scoville, W. L., states that the angelica wine in essence of pepsin N. F. should not be fortified, but should be as low in alcohol as possible to ensure an active preparation. Ten per cent of alcohol in the finished preparation is better than 15, because the pepsin will be more active.—Drug. Circ., N. Y., 1907, v. 51, p. 294.

EUCALYPTOL.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, p. 101), point out that the corrections of the U. S. P. up to June 1, 1907, provide that eucalyptol should have a specific gravity of from 0.921 to 0.923 at 25° C.

The inspectors of pharmacies assert that eucalyptol is occasionally found substituted by oil of eucalyptus which has a lower specific gravity and does not crystallize at 0° C.—Ann. de pharm. Louvain, 1907, v. 13, p. 327.

EUCALYPTUS.

Kramer, Hans, presents a description with illustrations of the characteristic structures of the leaf of eucalyptus and of the resulting powder.—Ber. d. pharm. Gesellsch., Berl., 1907, v. 17, pp. 319-323.

Smith, H. G., presents a comprehensive review of the recent work on the eucalypts, and concludes that the amount of chemical work still to be done is considerable, as many problems remain to be solved.—J. Soc. Chem. Ind. Lond., 1907, v. 26, pp. 851-857.

A book review presents a discussion of "Critical Revision of the Genus Eucalyptus," by J. H. Maiden, government botanist of New South Wales and director of the Botanic Gardens, Sydney, Part VIII, which deals mainly with the stringy barks, which are recognized by every systematic botanist as being specially difficult.—Pharm. J. Lond., 1907, v. 24, p. 645.

An unsigned article quotes Stevens, Caldwell, and 3 manufacturers as giving the percentage of alcohol in the official fluid extract of eucalyptus as 71.0, 72, 60, 80, and 50 per cent, respectively.—Drug. Circ., N. Y., 1907, v. 51, p. 319.

EUGENOL.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, p. 101) point out that the corrections of the U. S. P. up to June 1, 1907, provide that eugenol shall have a specific gravity of from 1.066 to 1.068 at 25° C.

EUONYMUS.

Farwell, O. A., asserts that Wahoo bark is frequently difficult to obtain in a pure state. The adulteration consists in slicing off more or less of the wood along with the bark. Sometimes lots have been found to contain upward of 25 per cent of wood.—Merck's Report, N. Y., 1907, v. 16, p. 221.

Deweese, W. M., finds wahoo a most efficient remedy in that species of dyspeptic or stomach pain which occurs when the stomach is empty, and is relieved by a light lunch, cup of tea, or a cracker.—Eclectic M. J. Cincin., 1907, v. 67, p. 162.

EUPATORIUM.

Henkel, Alice, describes and figures *Eupatorium purpureum* L., commonly called queen of the meadow, gravelroot, Indian gravelroot, joepyee weed, purple boneset, tall boneset, kidney root, king of the meadow, marsh milkweed, motherwort, nigger weed, quillwort, slunk weed, and trumpetweed.—Bull. Bur. Plant Ind., U. S. Dept. Agric., 1907, No. 107, pp. 61–62.

Farwell, O. A., asserts that a very large percentage of the Boneset collected in 1906 is of very poor quality, owing to the carelessness of collectors, both in collecting and in curing: the samples of the drug on hand contained a large amount of worthless stem and the leaves are dark colored, due to overheating or sweating through inattention or improper handling during the drying process.—Merck's Report, N. Y., 1907, v. 16, p. 220.

EXTRACTA.

William, Joseph H., discusses the preparation of alcohol extracts and describes and figures an apparatus designed for continuous extracting.—Pharm. J., Lond., 1907, v. 25, p. 534.

Thornewell, Albert R., commenting on the paper by J. H. Williams for making solid or liquid extracts, points out that it would be well to carefully inquire into the effect of prolonged heating on the alkaloidal and other constituents of the drugs treated before adopting this method.—*Ibid.*, v. 25, p. 592.

Philipp Röder (Jahresbericht, Wien, 1907, p. 11) points out that the dried substance in extracts is best determined by mixing 1 gm. of the extract with approximately 2 cc. of water, or, when necessary, alcohol, and drying the resulting solution on a tared dish of approxi-

mately 5 cm. in diameter for three hours, and weighing. The residue multiplied by 100 gives the amount of dried substance contained in 100 gms. of extract.

EXTRACTUM MALTI.

Blome, Walter H., (com. on adulterations) reports the examination of several samples of malt extract; one had no digestive value whatever, was off in taste, odor, and general appearance.—*Proc. Michigan Pharm. Ass.*, 1907, p. 69.

Rodwell, H., makes some practical suggestions concerning the utility of a liquid malt extract as a vehicle for certain medicaments, such combinations usually finding favor with patients. He asserts that the ordinary malt extract, which usually has a density of 1.375 or over, is not convenient for this purpose, and he therefore suggests a "liquid extract" obtained by incorporating 68 parts of the extract of malt (specific gravity, 1.375) with a previously prepared mixture of 7.5 parts of 90 per cent alcohol and 25 parts of distilled water, and then adjusting the whole by addition of sufficient water to produce 100 parts of product. After standing until clear, the liquid is decanted or syphoned from the deposit formed and is ready for use. He gives formulas for the combination of malt and cascara, hamoglobin, hypophosphites, glycerophosphates, iron, pancreatin, and pepsin.—*Pharm. J.*, Lond., 1907, v. 24, p. 452.

"Gnomon" calls attention to the formula for malt extract preparations offered by Mr. Rodwell, and commends the idea of making all the finished preparations measure or weigh 100 parts. This method of representing the quantities in formulæ is of advantage in that the approximate percentage of composition of the articles can readily be determined.—*Ibid.*, v. 24, p. 492.

FERRI CARBONAS SACCHARATUS.

Dawson, Edward S., in preparing saccharated carbonate of iron protects the ferrous sulphate and ferrous carbonate with plenty of sugar from start to finish.—*Proc. New York Pharm. Ass.*, 1907, p. 223.

Dulière, W., discusses the Ph. Belg. III requirement and formula for saccharated carbonate of iron, and expresses the belief that the addition of sugar of milk is an improvement.—*Ann. de pharm. Louvain.*, 1907, v. 13, pp. 369-372.

Franklin, J. H., presents a new method of preparing saccharated carbonate of iron and suggestions for its use in pharmacy, the object being to obtain, if possible, a compound containing at least 66 per cent of ferrous carbonate, or, preferably, 69 to 70 per cent. He discusses also iron tablets, pills, and capsules.—*Year Book Pharm. Lond.*, 1907, pp. 435-438. (See also *Pharm. J.* 1907.)

Crewe, Philip H., discusses the determination of ferrous carbonate in saccharated ferrous carbonate and recommends an assay method. He likewise discusses the determination of ferrous carbonate in *pilula ferri*, and compares the influence of certain organic matter.—*Ibid.*, pp. 455-468.

Kal, A., (Pharm. Weekbl.) presents a formula for a solution of ferrous carbonate.—*Am. J. Pharm. Phila.*, 1907, v. 79, p. 427.

Wilbert, M. L., outlines a formula for a solution of ferrous sulphate and potassium carbonate in glycerin which, on dilution with water, yields freshly precipitated or nascent ferrous carbonate.—*Am. J. Pharm. Phila.*, 1907, v. 79, p. 525.

FERRI CHLORIDUM.

Klose, G., found that *adeps lanae* dissolved 4.01 per cent of ferric chloride.—*Arch. internat. de Pharmacod. et de Therap.*, 1907, v. 17, p. 461.

FERRI HYPOPHOSPHIS.

Golby and Finnemore discuss the preparation of the strong solution of iron hypophosphite B. P. C. and outline a method which they have adopted and which yields a product similar to, but perhaps rather brighter in color than, that obtained by the B. P. C. method.—*Pharm. J. Lond.*, 1907, v. 24, p. 102.

FERRI SULPHAS.

Blome, Walter H., (com. on adulterations) reports that ferrous sulphate frequently contains free sulphuric acid.—*Proc. Michigan Pharm. Ass.*, 1907, p. 68.

Klose, G., found that ferrous sulphate was practically insoluble in *adeps lanae*.—*Arch. internat. de Pharmacod. et de Therap.*, 1907, v. 17, p. 461.

FERRUM.

Kerbosch, H., (Pharm. Weekbl., 1907, No. 34) finds that the test of the Ph. Ndl. for the detection of copper in powdered iron, which is similar to that of the Ph. Germ. IV, suffers from the defect that some of the copper present may escape detection.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 292.

Nannestad, F., recommends the titrimetric estimation of iron by means of potassium dichromate. He outlines the test, which depends on the oxidation of a ferrous chloride into ferric chloride according to the following reaction: $K_2Cr_2O_7 + 14HCl + 6FeCl_2 = 2KCl + 2CrCl_3 + 7H_2O + 6FeCl_3$.—*Apoth. Ztg. Berl.*, 1907, v. 22, p. 891.

Bergh, Gustaf, Fr., (*Svensk Farmaceutisk Tidskrift*, 1907, pp. 241-247) discusses the iodometric estimation of iron and concludes

that in fairly concentrated solutions with a slight excess of potassium iodide reliable results may be secured in comparatively short time.—*Apoth. Ztg. Berl.*, 1907, v. 22, p. 664.

Lutz, O., (*Chem. Ztg.*, 1907, p. 570) finds that if an aqueous solution of protocatechuic acid be added to a liquid containing a minute trace of iron and then a few drops of normal sodium carbonate solution, to impart a slight alkalinity, a red color will be developed.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 292.

The Council on Pharmacy and Chemistry discusses "masked" or "nonionic" iron preparations, and calls attention to the distinction to be drawn between the therapeutic terms "organic" iron and "masked" or "nonionic" iron.—*J. Am. M. Ass.*, 1907, v. 48, p. 611.

Meinertz, J., reviews the literature relating to the behavior of iron and of the compounds of iron in the body. Includes upward of 75 references.—*Zentrbl. f. Physiol. u. Path. d. Stoffwechs.* 1907, v. 2, pp. 652-662.

Long, Eli H., stated that he had made clinical comparisons of the official inorganic salts of iron and some of the unofficial organic, and he concluded that the official were to be preferred in the treatment of chlorosis and anemia.—*N. York M. J.*, 1907, v. 86, p. 233.

Hirschfeld, Hans, asserts that the controversy as to the comparative usefulness of organic and inorganic iron is now definitely settled and that both have a field of usefulness. Inorganic preparations act more intensively, while the organic preparations are indicated only in cases where the former are absolutely not tolerated.—*Therap. d. Gegenw.*, *Berl.*, 1907, v. 48, p. 78.

Feigl, Johann, reports the results of his experimental researches on the influence of medicaments on gastric secretion, taking up first iron and the iron preparations.—*Biochem. Ztschr. Berl.*, 1907, v. 6, pp. 17-60.

Morgenstrew (*Arch. de stomat. Par.*, Aug., 1907) finds that almost all preparations containing iron exercise an injurious action upon the teeth. Those causing most marked erosion are the iodides and chlorides and preparations containing them, while the albuminates and the manganates are practically innocuous.—*Dental Cosmos*, *Phila.*, 1907, v. 49, p. 1103.

A number of additional references on the use of iron will be found in the *J. Am. M. Ass.* and the *Index Medicus*.

FERRUM REDUCTUM.

Caspari, Chas. E., (com. on adulterations) reports on 14 samples—2 U. S. P.; 10 contained excess of sulphite; 2 weak in strength.—*Proc. Missouri Pharm. Ass.*, 1907, p. 142.

Bachman, Gustav, (com. on adulterations) reports reduced iron ranging from 83.1 to 76.5 per cent of metallic iron instead of 90 per

cent as required by the U. S. P.—Proc. Minnesota Pharm. Ass., 1907, p. 41.

The inspectors of pharmacies found samples of reduced iron which assayed from 40 to 50 per cent of metallic iron.—Ann. de pharm. Louvain, 1907, v. 13, p. 327.

Gilmour, J. P., reports 8 out of 9 samples below Ph. Brit. standards; more than traces of As. The next Ph. Brit. might advantageously specify a reasonable limit for arsenic.—Year Book Pharm. Lond., 1907, pp. 446–455. (See also Pharm. J. Lond., 1907.)

FERRUM.

SCALE SALTS.

FERRI PHOSPHAS SOLUBILIS.

Graham, Willard, found one sample of soluble ferric phosphate to contain ferric phosphate corresponding to 13 per cent of metallic iron.—Proc. Pennsylvania Pharm. Ass., 1907, p. 238.

Gilmour, J. P., reports 13 samples all below Ph. Brit. standards; average deficiency 23–42 per cent. It might be an advantage to adopt the ferri phosphas solubilis, U. S. P.—Year Book Pharm. Lond., 1907, pp. 446–455.

FERRI PYROPHOSPHAS SOLUBILIS.

Graham, Willard, found one sample of soluble ferric pyrophosphate to contain ferric pyrophosphate corresponding to 12.2 per cent of metallic iron.—Proc. Pennsylvania Pharm. Ass., 1907, p. 238.

Gane, E. H., examined one sample which contained equivalent of only 6.3 per cent of metallic iron.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 326.

Blome, Walter H., (com. on adulterations) reports finding ferric pyrophosphate with 6.05 instead of 10 per cent of metallic iron.—Proc. Michigan Pharm. Ass., 1907, p. 68.

FERRI ET AMMONII CITRAS.

Blome, Walter H., (com. on adulterations) reports one sample that was slightly acid.—Proc. Michigan Pharm. Ass., 1907, p. 69.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 25) report two samples of “green scales” which yielded about 22 per cent of ferric oxide upon ignition. In eighteen commercial samples the ferric oxide ranged from 31 to 34 per cent.

Dulière, Walter, presents a study of ferric citrate, outlines a method of preparing the same, and describes the properties of iron ammonium citrate.—Ann. de pharm. Louvain, 1907, v. 13, pp. 225–229.

FERRI ET POTASSII TARTRAS.

Dulière, W., discusses the changes that have been made in the Ph. Belg. method of making iron and potassium tartrate.—Ann. de pharm. Louvain, 1907, v. 13, pp. 372-374.

Graham, Willard, found one sample to contain iron and potassium tartrate corresponding to 15.3 per cent of metallic iron.—Proc. Pennsylvania Pharm. Ass., 1907, p. 237.

FERRI ET QUININÆ CITRAS.

Cortés, V., (Rev. Cientif. prof., 1906, No. 94) prepares the citrate of iron and of quinine by dissolving 6.5 gm. perchloride of iron in 650 gm. water and adding progressively bicarbonate of soda. Allow to settle, decant, wash, and add the precipitate little by little to the citrate of quinine formed from 16.80 gm. citric acid and 19.40 gm. quinine. The syrupy liquid obtained is then spread in thin layers on porcelain plates.—Répert. de pharm. Par. 1907, v. 19, p. 275.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 26) assayed 15 samples for quinine which showed the presence of from 13.25 to 15.5 per cent, the majority lying between 14.3 and 14.8 per cent.

Frerichs, G., points out that iron and quinine citrate, in common with other scale salts of iron, represents a possibly variable mixture that can not readily be controlled by chemical tests; therefore a process of manufacture should be made official.—Apoth. Ztg., Berl., 1907, v. 22, p. 238.

Eldred and Pence discuss the U. S. P. method for the estimation of iron in scale salts and point out that in order to determine the total iron in scale salts it is necessary to employ a gravimetric method or to completely oxidize the organic acid and ferrous iron before titration.—Proc. Am. Pharm. Ass., 1907, v. 55, pp. 364-367.

FICUS.

Eisen, G. (U. S. Dept. Agric. Pomology Bull. 9: 1-317, pl. 1-15+ f. 1-93, 1901, 1902), describes the fig, its history, culture, and curing, and includes a descriptive catalogue of the known varieties.—Bull. Torey Bot. Club, Chicago, 1907, v. 34, p. 52.

FLUIDEXTRACTA.

The Ph. Dan. VII differentiates between extracts and fluid extracts by arranging the several preparations under the general headings extracta and extracta fluida.—Ph. Dan. VII.

The committee on drug market presents a table showing the per cent of alcohol in the menstruum and resulting fluid extracts of aco-

nite root, apocynum, aromatic bitter orange, berberis, buchu, cannabis indica, cimicifuga, cascara, and ergot.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 320.

Gane, E. H., points out that the alcohol content of fluid extracts (and tinctures in a lesser degree) is subject to considerable variations from the wide range of moisture in drugs and the great difference in the percentage of extractive they contain. Presents a table showing per cent of alcohol contained in the menstruum and in the finished preparation.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 318.

Stevens, A. B., presents a list of the official fluid extracts and the approximate amount of alcohol contained therein.—*Pharm. Era*, N. Y., 1907, v. 37, p. 56.

Lyons, A. B., presents a table giving the alcohol percentage of the official fluid extracts, the percentage of alcohol in menstruum, the maximum percentage of absolute alcohol in the fluid extract and the percentage of absolute alcohol to be expected in the fluid extract.—*Am. Druggist*, N. Y., 1907, v. 50, p. 67.

Feil, Joseph, presents tabulated data relating to fluid extracts, the amounts of alcohol claimed to be in commercial fluid extracts, the amount of moisture in the ground drug, the amount of extractive, and the amount of alcohol remaining in the finished fluid extract.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, pp. 499–500.

An editorial discussing the tables of alcohol content of galenical preparations that have been published points out that practically all fluid extracts contain from 20 to 30 per cent of solid extractive and that this necessarily reduces the alcohol content proportionately.—*Drug Topics*, New York, 1907, v. 22, p. 1.

Lloyd, John Uri (*Eclectic Med. Gleaner*, iii, 1907, No. 6, 505), draws attention to an experience during a study of "Precipitates in fluid extracts" thirty years ago, which brought out the fact that whenever an alcoholic liquid casts a precipitate the liquid becomes stronger in its percentage of alcohol. He gives the figures obtained from recent experiments undertaken to establish the probable extent of variation in the alcoholic strength of fluid extracts from this cause.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 80.

Good, J. M., reports that in answer to his question: "What do you do with a fluid extract which is found by assay to be below standard?" the assayer replied, "We put in enough of the alkaloid to make up the deficiency." Good believes this kind of a preparation is at least better than a fluid extract prepared from a poor drug, artificially colored, and given increased consistency by the use of glycerin in the menstruum.—*Nat. Druggist*, St. Louis, 1907, v. 37, p. 64.

The Committee on the U. S. P. of the American Medical Association regards the official methods of preparing syrups and wines from

fluid extracts as being unsuitable in many cases.—Pharm. J. Lond., 1907, v. 25, p. 197.

Beringer, George M., presents a formula for a fluid glycerate of krameria and suggests the possibility of developing a line of liquid extract preparations made with glycerin or mixtures of glycerin and water and having the same drug strength as the U. S. P. fluid extracts.—Am. J. Pharm., Phila., 1907, v. 19, p. 411.

FLUIDEXTRACTA N. F.

ADONIDIS N. F.

Kramer, Hans, presents a description with illustration of the characteristic structures of the leaf of adonidis and of the resulting powder.—Ber. d. pharm. Gesellsch., Berl., 1907, v. 17, pp. 310-312.

ALETRIDIS N. F.

Henkel, Alice, describes and figures *Alettris farinosa* L., also known as stargrass, blazingstar, mealy starwort, starwort, unicorn-root, true unicorn-root, unicorn-plant, unicorn's-horn, colic-root, devil's-bit, ague-grass, ague-root, aloe-root, crow-corn, and huskwort.—Bull. Bur. Plant Ind., U. S. Dept. Agric., 1907, No. 107, pp. 19-20.

ANGELICÆ RADICIS N. F.

Henkel, Alice, describes and figures *Angelica atropurpurea* L., also called *Archangelica atropurpurea* Hoffm., commonly known as angelica, purple-stemmed angelica, great angelica, high angelica, purple angelica, and masterwort.—Bull. Bur. Plant Ind., U. S. Dept. Agric., 1907, No. 107, p. 51.

APII GRAVEOLENTIS N. F.

Kline and Graham found several lots of celery seed adulterated with olive pits or some similar material. For testing they suggest microscopic examination.—Proc. Pennsylvania Pharm. Ass., 1907, p. 83.

Stallman, A. C., reports that the appraisers of the port of New York passed at least one lot of celery seed which had been cleverly adulterated with 25 per cent of ground stone.—Proc. N. W. D. A., 1907, 33d Ann. Meet., p. 155.

CAULOPHYLLI, N. F.

Holm, Theo. (Merek's Rep., April, 1907, 94-96), calls attention to certain botanical and structural characteristics of *Caulophyllum*

thalictroides, illustrated by a large number of figures drawn from nature, which seem to justify its classification as the type of a distinct genus, as has been proposed by Bentham and Hooker.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 790.

CONVALLARIAE, N. F.

Beringer, George M., points out that the title "Fluidextractum Convallariae" should have *Florum* added to distinguish this from the pharmacopœial "Fluidextractum Convallariae" made from the rhizome and roots.—Proc. New Jersey Pharm. Ass., 1907, p. 71.

GERANII, N. F.

Henkel, Alice, describes and figures *Geranium maculatum* L., also called crane's-bill, spotted crane's-bill, wild crane's bill, stork's bill, spotted geranium, wild geranium, alumroot, alum-bloom, chocolate-flower, crow-foot, dove-foot, old-maid's nightcap, and shameface.—Bul. Bur. Plant Ind., U. S. Dept. Agric., 1907, No. 107, pp. 44-45.

HYDRANGEÆ, N. F.

Henkel, Alice, describes and figures *Hydrangea aborescens* L., commonly called hydrangea, wild hydrangea, and seven-barks.—Bul. Bur. Plant Ind., U. S. Dept. Agric., 1907, No. 107, pp. 41-42.

STERCULIÆ, N. F.

Goris and Arnould discuss the conservation and sterilization of fresh kola nuts.—Bull. d. sc. pharmacol., Par., 1907, v. 14, pp. 159-161.

Chevrotier and Vigne (Bull. sc. pharmacol., Par., Nov., 1906) succeeded by a process in which air is carefully excluded to obtain a dry preparation, having a white color, in which the caffeine is contained in its unchanged original combination, and so keeps indefinitely if mixed with sugar.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 795.

Charles, P. (Rép. de Pharm., 1907, No. 5), again calls attention to the efficiency of sugar as a preservative by a method which he proposed a number of years ago, and which secures the physiologically valuable constituents of the drug (the albuminoids, and in particular the oxydase) in an unchanged and active condition for years.—*Ibid.*, v. 55, p. 795.

FÆNICULUM.

Nelson, Burt E., describes and figures the structural characteristics of powdered fennel.—Merek's Report, N. Y., 1907, v. 16, p. 38.

Philipp Röder (Jahresbericht, Wien, 1907, p. 73) reports that 3 out of 5 samples of fennel seed exceeded the 10 per cent limit for ash of the Ph. Austr. VIII.

FRANGULA.

Würffel, Ludwig, reports finding frangula bark adulterated with the bark of *Alnus glutinosa* and figures the structural characteristics of the latter bark.—Ztschr. d. allg. österr. Apoth.-Ver., Wien, 1907, v. 45, pp. 211–213.

Kroeber, Ludwig, reports a comparative study of frangula and cascara sagrada and asserts that the former is uniformly more efficient and contains a higher percentage of oxymethylanthraquinone.—Pharm. Prax., 1907, v. 6, pp. 417–418.

Tunmann discusses the glucosids of frangula and reviews some of the literature regarding the nature of the glucosids present.—Pharm. Zentralh., 1907, v. 48, pp. 99–103.

GALLA.

Nelson, Burt E., describes and figures the structural characteristics of powdered nutgall.—Merck's Report, N. Y., 1907, v. 16, p. 38.

A review of the chemical industries of Japan includes a statement on the production of galls in the Provinces of Kii and Shikoku and gives the amount, value, and distinction of this drug exported from Kobe.—Chem. Ind., Berl., 1907, v. 30, p. 404.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 22) separated a package of galls into four kinds, i. e., large, small, blue, and grey. The results obtained were large, 87; small, 67; blue, 79; and grey, 79 per cent of tannin in oxalic acid equivalent.

Niece, Frederic E., outlines a color reaction for testing the identity of tincture of galls.—Proc. Am. Pharm. Ass., 1907, v. 55, pp. 482–483.

GAMBIR.

La Wall, Charles H., reports on 12 samples of commercial gambir which varied greatly in physical appearance. The ash varied from 2.53 to 7.35 per cent. Of the several samples from 64.10 to 86.60 per cent was soluble in alcohol and from 40 to 78 per cent soluble in water. He concludes that samples, free from mould, possessing the physical characteristics described in the U. S. P. will invariably be found to be satisfactory.—Am. J. Pharm., Phila., 1907, v. 79, pp. 203–205.

Gane, E. H., examined 3 samples. The portions insoluble in alcohol varied from 22.06 per cent to 70.47 per cent, and the ash content from 3.39 per cent to 7.02 per cent.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 325.

Nelson, Burt E., describes catechu and discusses its appearance under the microscope.—Merck's Report, N. Y., 1907, v. 16, p. 192.

Philipp Röder (Jahresbericht, Wien, 1907, p. 35) reports that only one of four samples of catechu examined complied with the official requirements for solubility in concentrated alcohol. The ash content was well below the Ph. Austr. VIII limits, but the material insoluble in strong alcohol was uniformly high varying from 24.19 to 42.65 per cent.

An editorial comments on an article published in the Agricultural Ledger which describes Indian cutch, its origin, composition, and properties.—Chem. & Drug., Lond., 1907, v. 71, pp. 509–510.

Schneider, Albert, points out that *Acacia catechu* which yields the familiar catechu or cutch of the pharmacist, is cultivated in the southern part of the State of California; not commercially, however.—Pacific Pharm., San Francisco, 1907–8, v. 1, p. 138.

GELATINUM.

Graham, Willard, reports examining two samples of gelatin that answered the U. S. P. VIII requirements, with the exception that a 2 per cent aqueous solution of sample No. 2 formed a turbid jelly on cooling.—Proc. Pennsylvania Pharm. Ass., 1907, p. 237.

Alexander, Jerome, contributes a note on the determination of sulphurous acid in gelatin.—J. Am. Chem. Soc., 1907, v. 29, pp. 783–785.

Halla, Ed., reviews the methods that have been suggested for determining the quality of gelatin and outlines a method for the determination of the contained glutin and the determination of the nitrogen content of the glutin.—Ztschr. f. ang. Chem., Berl., 1907, v. 20, pp. 24–28.

Vamvakas asserts that by his process, with Nessler's reagent, which is more expeditious than Trillat's formaldehyde process, it is possible to discover immediately the presence of gelatin in gum syrups.—Ann. de chim. analyt. Par., 1907, v. 12, pp. 58, 139.

Kuhn and Rössler discuss the use of sterilized solutions of gelatin for hypodermic injections and their preparation. They point out the need for controlling the origin of the gelatin so as to insure its being obtained from healthy animals.—Therap. Monatsh., Berl., 1907, v. 21, pp. 184–189.

Burton-Opitz, R. (Physiol. Lab., Columbia Univ., N. Y., Pr. Soc. Exp. Biol. Med., Dec. 19, 1906), states that injections of gelatin resulted in a very prompt increase in the viscosity of the blood.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 582.

Murlin, John R., discusses the nutritive value of gelatin, particularly the substitution of gelatin for proteid, with maintenance of nitrogen equilibrium at the fasting level. He reports a number of experiments, the results of which are presented in tabulated form.—Am. J. Physiol., Bost., v. 19, pp. 285–315. (See also *ibid.*, v. 20, pp. 234–257.)

GELSEMIUM.

Henkel, Alice, describes and figures *Gelsemium sempervirens* L., Ait. f., commonly called Carolina jasmine or jessamine, Carolina wild woodbine, and evening trumpet-flower.—Bul. Bur. Plant. Ind., U. S. Dept. Agric., 1907, No. 107, pp. 51–52.

Tunmann, reports a pharmacognostic study of the rhizome of gelsemium and describes, with illustrations, the structural characteristics of this drug.—Pharm. Zentralh., 1907, v. 48, pp. 679–687.

Sayre, L. E., records experiments made to devise a satisfactory assay of preparations of gelsemium, with but indifferent results.—Proc. Am. Pharm. Ass., 1907, v. 55, pp. 356–359.

Sayre, L. E., reports a study of the alkaloids gelsemine and gelseminine and briefly reviews the history of the constituents of gelsemium.—*Ibid.*, v. 55, pp. 352–356.

Waugh, W. F. (Am. J. Clin. M., Chicago, 1907, XIV, 1440–1443), discusses some special uses of gelseminine.—Reference from Index Medicus, 1908, v. VI, pp. 47, 51.

Bloyer thinks the value of gelsemium as a pain-relieving agent is not fully realized; it is a specific for the relief of cramping pains, or spasm of the unstriped muscular fiber: for organic pain, not so much of the digestive tract as for some other organs, womb, ovaries, liver and its ducts, kidney, ureter, bladder, etc.—Eclectic M. J., Cincin., 1907, v. 67, p. 62.

Church notes that the tincture, to be of any value, should be made from the fresh root.—*Ibid.*, p. 263.

Shedd, P. W., believes that gelsemium is, “polychrestic, imposing, and very serviceable.”—Hahnemann. Month., Phila., 1907, v. 42, p. 122.

Rosenberger, A. S., asserts that gelsemium is a remedy often indicated in influenza.—Tr. Am. Inst. Homœop., 1907, 63rd session, p. 419.

Kinyon, C. B., points out that gelsemium is indicated where we have the characteristic headache beginning in the occiput and extending up over the head with a distinctive pressure-like symptom.—*Ibid.*, p. 386.

GENTIANA.

Philipp Röder (Jahresbericht, Wien. 1907, p. 102) reports 2 samples of gentian root which exceeded the Ph. Austr. VIII 5 per cent limit of ash. One sample contained as high as 8.97 and yielded only 23.73 per cent of aqueous extract.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 23) made microscopical examinations of five samples of foreign-ground drug. Of these four were adulterated with up to 40 per cent of fruit “stone” powder, whilst the fifth contained quassia wood, which apparently had been exhausted.

A news item reports the prosecution of two chemists for selling powdered gentian root adulterated with 20 per cent of ground olive stones.—*Pharm. J. Lond.*, 1907, v. 24, p. 339.

Stansfield, J. M., questions the need for retaining compound tincture of gentian in the U. S. P. He thinks a simple tincture of gentian may have some use, but the orange peel in the compound tincture he thinks objectionable on account of the tannic acid contained in the peel.—*Proc. Florida Pharm. Ass.*, 1907, p. 9.

GLANDULÆ SUPRARENALES SICCÆ.

Hallion has experimented with glycerin extracts of suprarenal capsules for a number of years: the glycerin has a dehydrating action which antagonizes the deleterious effect of the water.—*J. de pharm. et de chim., Par.*, 1907, v. 25, p. 413.

Patta, Aldo, contributes a critical and experimental study of the action of the extract of suprarenal capsules on the circulation.—*Arch. farmacol. sper. Roma*, 1907, v. 6, pp. 82-102, 114.

Miller, Joseph L., discusses the action of the extract of the suprarenal gland and the method and indications for its use in a variety of conditions, together with some remarks on the dangers of adrenalin.—*J. Am. M. Ass.*, 1907, v. 48, pp. 1661-1664.

Formánek and Eiselt present a series of observations on the therapeutic action of suprarenal extract in cases of chronic nephritis.—*Arch. internat. de Pharmacod. et de Thérap.* 1907, v. 17, pp. 230-248. (See also under *Epinephrina*.)

GLANDULÆ THYROIDEÆ SICCÆ.

Koch, F. C., discusses the standardization of thyroids, and reviews the literature relating to the determination of the iodine content of this gland.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 370.

Hunt, Reid, reports that he has applied his biologic test for thyroid (the increased resistance of mice to acetonitrile) to a specimen of blood obtained from a case of exophthalmic goiter and found that the blood afforded protection as thyroid feeding does, though Seidell was unable to detect iodine in 150 c. c. of the blood examined.—*J. Am. M. Ass.*, 1907, v. 49, pp. 240-241.

An editorial calls attention to the work of Reid Hunt in developing the biologic test for thyroid, and states that the work promises to become of unusual importance, and the hope is expressed that similar work will place therapeutics on a firm basis of experimental knowledge.—*Ibid.*, v. 49, p. 248.

The Council on Pharmacy and Chemistry reports on several preparations which have been found to contain thyroid or are said to contain that substance or extracts from it.—*Ibid.*, v. 49, pp. 1198-1203.

Fassin, Louise, discusses the influence of the inoculation of thyroid extract on the active properties of the serum.—*Compt. rend., Soc. de biol. Par.*, 1907, v. 62, pp. 388–389.

Patta, Aldo, contributes a critical and experimental study of the action of the extract of thyroid gland upon the circulation.—*Arch. farmacol. sper. Roma*, 1907, v. 6, pp. 102–106, 115.

Gordon, Alfred, discusses the use of thyroid extract in migraine and epilepsy, and reports 10 cases that have come to his observation.—*Therap. Gaz. Detroit*, 1907, v. 31, pp. 849–851.

Additional references on the properties and the uses of thyroid will be found in the *Index Medicus* and the *J. Am. M. Ass.*

GLYCERINUM.

Mitchell, Edward, points out that glycerin is a soap maker's product or by-product, and is of very uneven quality.—*Meyer Bros. Drug.*, St. Louis, 1907, v. 28, p. 307.

Hinckley, J. F., presents some observations on the recovery of glycerin from soap lyes and the purification of the resulting crude glycerin.—*J. Soc. Chem. Ind., Lond.*, 1907, v. 26, p. 596.

An unsigned article discusses our dependence on foreign sources for crude glycerin, and points out that the latest government report gives the imports of crude glycerin for the eleven months ending last May as 35,061,779 pounds, representing a gain of nearly 4,000,000 pounds over the imports for the corresponding period last year.—*Oil, Paint and Drug Reporter*, New York, 1907, v. 72, July 15, p. 9.

White, Edmund, gives a description of glycerin, a number of tests for possible contaminations, and calls attention to the trade varieties.—*Pharm. J., Lond.*, 1907, v. 25, p. 815.

Wiley, H. W., reports that 15 samples of glycerin were examined for the purpose of ascertaining to what extent the article as supplied on the market is contaminated with arsenic and other impurities; also for the purpose of determining whether or not the tests prescribed by the United States Pharmacopœia, eighth revision, are too rigid. It was found that very few samples could be secured which would fully comply with the standard.—*Ann. Rep. U. S. Dept. Agric.* for 1907, 1908, p. 392.

Evans Sons Lescher and Webb (*Analytical Notes*, 1907, 1908, pp. 23–24), found several samples of continental origin to show considerably more arsenium than is allowed by the *Ph. Brit.* They point out that the official arsenic test is liable to give discordant results in different hands, especially when the amount present closely approaches the limit.

Barnard, H. E., reports 8 samples of glycerin examined, 6 of which were below standard.—*Rep. Indiana Bd. Health*, 1907, p. 188.

Blome, Walter H. (com. on adulterations), reports on the examination of a number of samples of glycerin. Most samples contained either butyric acid, or mineral or carbonizable impurities in very small amounts. Specific gravity correct in all cases.—Proc. Michigan Pharm. Ass., 1907, p. 68.

Caspari, Chas. E. (com. on adulterations), examined 16 samples; 2 satisfactory; 14 contained butyric acid.—Proc. Missouri Pharm. Ass., 1907, p. 142.

Sayre, L. E., reports finding traces of sugar, butyric acid, acrolein, sulphates and iron in various samples of glycerin.—Bull. Kansas Bd. Health, 1907, p. 12.

Kline and Graham assert that they have not been able to find commercial glycerin free from butyric ether.—Proc. Pennsylvania Pharm. Ass., 1907, p. 85.

Lücher, Edward, asserts that commercial glycerin invariably contains butyric acid.—Apoth. Ztg., Berl., 1907, v. 22, p. 1045.

Bergh, Gustaf Fr., discusses the organic acids found in glycerin, describes their origin and composition, and outlines methods for their determination.—Svensk. Farm. Tidskr., 1907, v. 11, pp. 261-270, 280-285, 301-307.

Ossendowski (C. R. Soc. Chim. Russ.), reports observations on the solvent action of glycerin.—Apoth. Ztg., Berl., 1907, v. 22, p. 807.

Kirchgessner, William C., discusses the comparative advantages of glycerin and syrup as a vehicle, preservative or solvent.—Proc. Am. Pharm. Ass., 1907, v. 55, pp. 159-161.

Jamieson, W. Allan, states that glycerin is the excipient par excellence, while irritant when applied alone, if combined with starch, it forms a bland, persistent, soothing and softening medium, and when used early and persistently may effect a cure of ichthyosis.—Brit. M. J., 1907, v. 1, p. 364.

Graef, Charles, states that glycerin with a little carbolic acid added is probably the best remedy which can be used for dropping in the ear in middle-ear disease. Laudanum and olive oil, which are commonly used, can have little benefit and they have the disadvantage of fouling the ear and promoting the development of bacteria when rupture of the drumhead occurs.—N. York M. J., 1907, v. 86, p. 151.

Additional references to the use of glycerin will be found in the Index Medicus and the J. Am. M. Ass.

GLYCERITA.

GLYCERITUM FERRI, QUININÆ ET STRYCHNINÆ PHOSPHATUM.

Mittelbach, Wm., thinks there is no special necessity for a glycerite of iron, quinine, and strychnine phosphate, since the elixir can readily be mixed with glycerin.—Proc. Missouri Pharm. Ass., 1907, p. 131.

Cohn, Alfred I., thinks this a superfluous preparation, as the syrup of the phosphate of iron, quinine, and strychnine can easily be made directly by a modified formula which he suggests.—Proc. New York Pharm. Ass., 1907, p. 234.

McElhenie, T. D., called attention to the glycerite of phosphates of iron, quinine, and strychnine of the U. S. P. which he believes to be an unsatisfactory preparation, as it tends to precipitate or to form a solid magma.—Am. J. Pharm. Phila., 1907, v. 79, p. 297.

GLYCYRRHIZA.

Lloyd, John Uri, discusses the occurrence of the licorice plant, its collection, and the production of extract of licorice in the valley of the Meander and of the Hermes in Asia Minor.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 336.

Rittenhouse, Daniel S., discusses the cultivation of glycyrrhiza and describes a specimen grown in a back yard in Philadelphia.—Am. J. Pharm. Phila., 1907, v. 79, pp. 39-41.

Harris, E. L., gives some interesting information relative to the licorice root industry of Asiatic Turkey, the method of collection, and marketing.—Pharm. J. Lond., 1907, v. 25, p. 394.

Stscherbatscheff, D., describes and figures the fruit of glycyrrhiza and its structural characteristics; also describes the development of the seed and of the root.—Arch. d. Pharm., 1907, v. 245, pp. 54-60.

Knowaleu, S. G., (Dissertation, St. Petersburg) reports an examination of Asiatic glycyrrhiza, *Glycyrrhiza uralensis*, which is found in Siberia, Turkestan, and Mongolia. He concludes that this Asiatic glycyrrhiza is of better quality than the best Spanish and is but little inferior to the best Russian licorice.—Chem. Report., Cöthen, 1907, v. 31, p. 588.

Tschirch and Cederberg review the efforts that have been made to isolate glycyrrhizin. They discuss the chemistry of the substance and record experiments to determine the nature of the combination in which glycyrrhizic acid is present in the drug.—Arch. d. Pharm., 1907, v. 245, pp. 97-111.

Heinrich Haensel (Half-Yearly Report, April, 1907, p. 18) points out that the oils from both Russian and Spanish licorice are dark, possessing the decided odor of the root in a most concentrated form.

Philipp Röder (Jahresbericht, Wien, 1907, p. 106) reports on 6 samples of glycyrrhiza which varied from 4.58 to 5.63 per cent of ash, and yielded from 31.62 to 40.61 per cent of aqueous extract.

Blome, Walter H., (com. on adulterations) points out that probably all powdered extract of licorice contains starch to keep it from lumping up. For that reason, and to comply with the law, it is labeled "compound" extract of licorice.—Proc. Michigan Pharm. Ass., 1907, p. 69.

Gane, E. H., calls attention to the fact that powdered stick licorice is usually supplied when extract of glycyrrhiza is demanded. It contains of necessity some inert insoluble matter, usually starch, which is not to be considered an adulterant, as some official chemists are fond of declaring.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 327.

Scoville, W. L., says that extract of glycyrrhiza varies much in proportion of extractive matter. Of 16 samples one contained 77.8 per cent soluble matter; another 38.6 per cent, and the remainder between these figures. Starch is present in most samples.—*Ibid.*, v. 55, p. 327.

Baird, J. W., (com. on adulterations) reports on 18 samples of extract of glycyrrhiza; 5 genuine, 13 adulterated.—*Proc. Massachusetts Pharm. Ass.*, 1907, p. 39.

Lythgoe, Hermann C., reports that 5 samples of extract of glycyrrhiza were all found to be adulterated with wheat starch.—*Rep. Massachusetts Bd. Health*, 1907, 1908, p. 379.

Scoville, W. L., asserts that a better-flavored syrup of glycyrrhiza can be made by percolating ground licorice root with a weak (0.1 per cent) solution of ammonium carbonate, evaporating to 450 cc. and dissolving 850 gms. of sugar in the liquid. This also makes a lighter-colored preparation.—*Drug. Circ.*, April, 1907, v. 51, p. 295.

Ferrel, O. L., makes a similar suggestion.—*Proc. Texas Pharm. Ass.*, 1907, p. 74.

GOSSYPHII CORTEX.

Blome, Walter H., (com. on adulterations) reports one sample of cotton-root bark which was quite woody.—*Proc. Michigan Pharm. Ass.*, 1907, p. 68.

GOSSYPHIUM PURIFICATUM.

Boname, P., (*Sta. Agron. Mauritius Bul.* 15, pp. 17-22) presents a table giving the results of variety tests of cotton in Mauritius.—*Exp. Sta. Rec.*, 1906-7, v. 18, p. 930.

Allard, H. A., figures and discusses the fibers of long staple upland cotton, discusses the uniformity of cotton fibers, the apparent lack of uniformity and its occurrence, and the true nature of the long fibers.—*Bull. Bur. Plant Ind., U. S. Dept. Agric.*, 1907, No. 111, pp. 13-16.

An abstract refers to the examination of 15 samples of purified cotton, only one of which yielded more ash than is permitted by the Ph. Germ. IV. The fatty matter, on the other hand, was relatively high, ranging from 0.32 to 0.98 per cent.—*Am. Druggist*, N. Y., 1907, v. 50, p. 136.

Gilmour, J. P., reports 3 out of 18 samples below Ph. Brit. standards; not purified from fatty matter.—*Year Book Pharm.*, Lond., 1907, pp. 446-455.

GRANATUM.

Caesar and Loretz (Geschäfts Ber., 1907, p. 84) discuss the assay of pomegranate root and the requirements made for this drug by various pharmacopœias. The Ph. Germ. IV requires 0.413 per cent and the Ph. Ndl. 0.25 per cent of alkaloids, while the Ph. Austr. VIII permits 10 per cent and the Ph. Ndl. 8–15 per cent of ash.

Philipp Röder Wien points out that the Ph. Austr. VIII limitation for ash in pomegranate is too low. Five out of six samples examined exceeded the 10 per cent ash content limit of the pharmacopœia, though none exceeded the 15 per cent limit proposed by Hauke.—Pharm. Post, Wien, 1907, v. 40, p. 337.

Caesar and Loretz (Geschäfts Ber., 1907, p. 18) point out that pomegranate bark shows considerable variation in the amount of the contained alkaloid, the bark of the trunk varying from 0.097 to 0.060 per cent and the bark of the root from 0.282 to 0.48 per cent.

An unsigned article quotes Caldwell and three manufacturers as giving the percentage of alcohol in the official fluid extract of pomegranate as 43, 45, 40, and 40 per cent, respectively.—Drug. Circ., N. Y., 1907, v. 51, p. 319.

GRINDELIA.

Johnson, E. E., points out that the old settlers of California used grindelia as a remedy for inflammatory rheumatism, giving large quantities of decoction and applying poultices of the leaves.—Pacific Pharm., San Francisco, 1907–1908, v. 1, p. 414.

Farwell, O. A., reports that he has received a small California plant for grindelia, which upon examination proved to be one of the plants known in California as “tar weeds,” *Hemizonella minima*, A. Gr. The plant was only two or three inches in height and the inflorescence was very glutinous, giving it a faint resemblance to a very diminutive form of grindelia.—Drug. Circ., N. Y., 1907, v. 51, p. 460.

Power and Tutin report in detail chemical examination of grindelia, giving the methods employed and recording the results obtained.—Proc. Am. Pharm. Ass., 1907, v. 55, pp. 337–344.

Heinrich Haensel (Half-Yearly Report, April, 1907, p. 12) describes an oil from the dried herb of *Grindelia robusta*, obtained by distillation with high-pressure steam, 0.28 per cent. of a brown color and strong odor.

An unsigned article quotes Stevens, Caldwell, and three manufacturers as giving the percentage of alcohol in the official fluid extract of grindelia as 71, 72, 60, 65, and 80 per cent, respectively.—Drug. Circ., N. Y., 1907, v. 51, p. 319.

Webster, Herbert T., thinks that the local influence of *Grindelia robusta*, in various forms of ulceration and irritation of skin and

mucous membranes, gives it a merit probably not equaled by any other remedy in the materia medica.—*Eclectic M. J.*, 1907, v. 67, pp. 68-72, 121-125.

GUAIACOL.

Kahn, Joseph, outlines tests to distinguish guaiacol from creosote.—*Proc. New York Pharm. Ass.*, 1907, p. 242.

Blome, Walter H., (com. on adulterations) reports the examination of guaiacol which did not respond to the U. S. P. tests.—*Proc. Michigan Pharm. Ass.*, 1907, p. 68.

Caspari, Chas. E., (com. on adulterations) examined 5 samples, 4 satisfactory; 1 contained creosote.—*Proc. Missouri Pharm. Ass.*, 1907, p. 145.

The editor of the "therapeutical notes" quotes Ragorzi, *Bulletin général de thérapeutique*, who advises the use of an ointment of guaiacol in the treatment of mumps.—*N. York M. J.*, 1907, v. 86, p. 409.

GUAIACUM.

Gansby, R. A., reports that there is no difficulty in securing a fine article of guaiac of U. S. P. quality.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 75.

Hankey, W. T., examined guaiac resin containing from 24 to 29 per cent of insoluble matter and from 0.5 per cent to 6.4 per cent of ash.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 325.

Gane, E. H., reports on examination of 5 samples and found the percentage of matter insoluble in alcohol to vary from 1.2 per cent to 20.7 per cent, and the ash content from 0.14 per cent to 5.19 per cent.—*Ibid.*, v. 55, p. 325.

Patch, E. L., reports a specimen of guaiac resin, 24 per cent insoluble in alcohol; 4.2 per cent ash; acid No. 78.—*Ibid.*, v. 55, p. 325.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 24) examined four samples ranging from 10.46 to 24.76 per cent of matter insoluble in alcohol; from 2.4 to 5.1 ash, and having a saponification value of from 63.5 to 70. Three gave 1.3, 1.5, and 1.1 solubility in petroleum spirit. The fourth was practically insoluble in alcohol.

Blome, Walter H., (com. on adulterations) reports one sample of guaiac resin containing 22.62 per cent of matter insoluble in alcohol.—*Proc. Michigan Pharm. Ass.*, 1907, p. 68.

Niece, Frederic E., describes a color reaction for testing the identity of tincture of guaiac.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 483.

GUARANA.

Nelson, Burt E., gives the origin of guarana and describes the appearance of the drug and its powder; also calls attention to the

characteristic appearance of the drug under the microscope.—Merck's Report, N. Y., 1907, v. 16, p. 220.

Puckner, W. A., reviews the literature of 1906, relating to the assay of guarana.—Pharm. Rev. Milwaukee, 1907, v. 25, p. 321.

Vanderkleed, Charles E., (com. on adulterations) reports the examination of two samples of guarana assaying 4.700 and 4.080 per cent, respectively. He remarks that the quality is very good, but that the drug is hard to exhaust.—Proc. Pennsylvania Pharm. Ass., 1907, p. 88.

Gane, E. H., examined 6 lots which varied from 4.1 per cent to 4.64 per cent of alkaloidal principles.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 326.

Patch, E. L., examined 2 lots assaying 4.1 per cent and 3.4 per cent, respectively.—*Ibid.*, v. 55, p. 326.

An unsigned article quotes Stevens, Caldwell, and three manufacturers as giving the percentage of alcohol in the official fluid extract of guarana as 48.9, 48, 60, 65, and 40 per cent, respectively.—Drug. Circ., N. Y., 1907, v. 51, p. 319.

HAMAMELIDIS FOLIA.

A news item discusses the value of witch-hazel brush and the amount used in the manufacture of distilled extract of witch hazel.—Pharm. Era., N. Y., 1907, v. 37, p. 125.

Kramer, Hans, describes and illustrates the structural characteristics of the leaf of hamamelis. He includes a table in which he enumerates the amount of ash found in various leaf and flower drugs.—Ber. d. pharm. Gesellsch., Berl., 1907, v. 17, pp. 323-325.

Scoville, Wilbur L., reports a study of an oil, or a fatty substance, having a strong odor of witch hazel, obtained in the distillation of that drug.—Proc. Am. Pharm. Ass., 1907, v. 55, pp. 448-449.

AQUA HAMAMELIDIS.

Barnard, H. E., reports seven samples of witch hazel examined, six of which were U. S. P., and one was below standard, and contained formaldehyde. Barnard concludes that the use of formaldehyde as a preservative in witch hazel is evidently somewhat common.—Rep. Indiana Bd. Health, 1907, p. 189.

Lythgoe, Hermann C., reports that one sample of witch hazel extract out of the 42 examined was found to be adulterated. It contained formaldehyde. All the samples examined during the year were free from wood alcohol.—Rep. Massachusetts Bd. Health, 1907, 1908, p. 379.

The N. Y. State Board of Health, Eastern Branch, reports 80 samples, 4 deficient.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 331.

The Amer. Druggist reports many samples in Buffalo found deficient.—*Ibid.*, v. 55, p. 331.

Scoville, W. L., states that it varies in alcohol from 13.5 to 15.1 per cent.—*Ibid.*, v. 55, p. 331.

HEDEOMA.

Bennett, J. G., describes and figures an apparatus used by him in the preparation of oil of pennyroyal. He finds that the stems and the roots constitute 16 per cent of the plant and contain no oil. The total yield of oil from the plant is 0.166 per cent, so that the yield from the leaves and tops would be 0.198 per cent.—*Mdl. Drug.*, Columbus, 1906-7, v. 8, p. 213.

HEXAMETHYLENAMINA.

Schlotterbeck, J. O., outlines the making of hexamethylenamine and points out that this is a simple condensation resulting from the mixture of stronger water of ammonia and solution of formaldehyde, according to the following equation: $4\text{NH}_3 + 6\text{CH}_2\text{O} = (\text{CH}_2)_6\text{N}_4 + 6\text{H}_2\text{O}$. This is one of the simplest illustrations of synthesis.—*Bull. Pharm.*, 1907, v. 21, p. 330.

Base, Daniel, reports a comparative study of various samples of hexamethylene-tetramine, some of them sold under trade names at fancy prices, and finds that there is practically no difference in composition or purity.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, pp. 469-472.

A contributor to the "Pharmacology" column calls attention to the various names under which hexamethylenamine is sold and the claims of each of these concerning superiority. Daniel Base has examined a number of commercial samples as well as those sold under proprietary names, and finds that they are practically uniform in strength and purity, hence the substance may be safely prescribed by the official name.—*J. Am. M. Ass.*, 1907, v. 49, p. 1295.

Abt, I. A., discusses urinary infection in children and states that urotropin is by far the best medicinal treatment. Salol may be used with urotropin or alone.—*Ibid.*, v. 49, pp. 1972-1975.

The paper was discussed by A. C. Cotton, Edwin E. Graham, J. L. Morse, J. H. M. Knox, E. W. Mitchell, L. Bourse, and Isaac A. Abt.

HUMULUS.

A news note points out that at the present time American hops are the subject of invidious discrimination in many markets, due to the supposed lack of certain desired qualities. A preliminary investigation of the condition of growing, curing, and handling the product has been made and the conclusion reached that the quality could be much improved by better methods of curing and cleaner picking. Accordingly, a study of the problems of curing has been mapped out

and is now in progress in the hop districts of the Pacific coast.—Oil, Paint, and Drug Reporter, N. Y., 1907, v. 71, March 25, p. 25.

Merrit, E., (U. S. Dept. Agr. Bur. Statis, Bul. 50, pp. 34, dgm. 1) reports the production of hops in the United States from 1850–1900, and annual production and commercial movement of this product from 1889–1905, together with the localization of the production in this and European countries.—Exp. Sta. Rec., 1906–7, v. 18, p. 1040. (See also *ibid.*, p. 1078.)

Gehe & Co. (Handels-Bericht, 1907, p. 25) present some figures on the production of hops in various countries during the year 1906, showing a general decrease in production in all countries but the United States. (See also Bull. Pharm., 1907, v. 21, p. 80.)

Coez, G., (Bull. Soc. Chim. du Nord, through Annales de Chim. Analyt., 1906, 11, 466) outlines a method for the valuation of hops by determining the amount of benzol extract, which he believes to be a valuable criterion of the quality of brewer's hops.—Pharm. J. Lond., 1907, v. 24, p. 293.

Stockberger, W. W., (U. S. Dept. Agr. Bur. Plant Indus. Bul. 121, pp. 41–46) mentions investigations on the sources of arsenic in certain samples of dried hops and gives the several conclusions reached.—Exp. Sta. Rec., 1907–8, v. 19, p. 1007.

HYDRARGYRI CHLORIDUM CORROSIVUM.

Kof and Haehn outline a possible method for the detection of minute quantities of mercuric chloride which depends on the effect of the mercuric salt in inhibiting the reduction of the silver bromide in photographic plates.—Arch. d. Pharm., 1907, v. 245, pp. 529–533.

Sauboumatsu, S., outlines a method for the quantitative estimation of sublimate which depends on the deposition of mercury on a clean copper wire.—J. Pharm. Soc., Japan, 1907, p. 753.

Schuyten, M. C., (Antwerp. Chem.-Ztg., 31, 1135) has found that for mercuric halides, iodine, and bromine to a certain extent can displace chlorine from HgCl_2 , in aqueous as well as in ethereal solution.—Chem. Abstr. Am. Chem. Soc., 1908, v. 2, p. 931.

Herz and Anders (Chem. Inst. Univ. Breslau, Z. anorg. Chem., 52, 164–172) determined the solubilities at 25° of mercuric chloride, iodide, bromide, and cyanide in mixtures of varying amounts of methyl alcohol and water, ethyl alcohol and water, and ethyl acetate and water.—*Ibid.*, v. 1, p. 955.

Klose, G., reports that adeps lanæ will dissolve 1.53 per cent of mercuric chloride.—Arch. internat. de Pharmacod. et de Thérap., 1907, v. 17, p. 461.

Sabbatani, L., discusses the use of hydrogen sulphide as a general antidote for mercuric salts, particularly corrosive mercuric chloride.—*Ibid.*, v. 17, pp. 318–341.

Hausmann, W., discusses the possibility of acquired immunity to corrosive sublimate and points out that so far as known no experimental work in this connection is available.—*Ergeb. d. Physiol.*, 1907, v. 6, p. 88.

Maurel and d'Orel discuss the influence of the paths of administration (gastric, hypodermic, intravenous, etc.) on the minimum lethal dose of bichloride of mercury.—*Compt. rend. Soc., de biol. Par.*, 1907, v. 63, pp. 21–23. (See also under *Sparteinae sulphas* and *Quininae hydrobromidum*.)

Manwaring and Ruh discuss the effect of certain surgical antiseptics and therapeutic agents on phagocytosis, report a number of observations, and conclude that mercuric chloride in concentrations less than $\frac{1}{10}$ per cent causes a transient stimulation in phagocytosis, followed by a depression. In larger amounts it causes a permanent depression from the first, phagocytosis apparently completely ceasing soon after the concentration reached $\frac{1}{60}$ per cent.—*J. Expr. M.*, N. Y., 1907, v. 9, pp. 473–486.

Blake, Irwin W., details a case of poisoning by corrosive sublimate which was unusual on account of the absence of typical symptoms.—*J. Am. M. Ass.*, 1907, v. 48, p. 2137.

The editor of the "Therapeutics" column states that the *Pharmaceutical Journal*, April 6, calls attention to the fact that mercuric chloride and potassium iodide are often ordered together in solution and that this is a precipitant for alkaloids which are sometimes ordered in the same mixture.—*Ibid.*, v. 48, p. 2206.

Martinet, A., (*Presse méd.*, Paris, v. 15, No. 91) does not approve of giving mercury by the mouth as a rule, but if required glycerin may be added to prevent drying of the pills. He adds opium to increase the tolerance of the intestines for the bichloride.—*Ibid.*, v. 49, p. 2043.

Lydston, G. Frank, discusses the intravenous treatment of syphilis and states that a patient may be brought under the mercurial influence within forty-eight hours by this means. He states that his experience with the method is limited and he does not advise it as a routine method of treatment.—*Ibid.*, v. 49, pp. 1662–1663.

Guernsey, Joseph C., discusses the indications for "mercurious corrosivus" and asserts that this powerful ally is often entirely overlooked in the search for a remedy to cure the urinary symptoms in which it is indicated, and usually the routine prescriber thinks of cantharis, or cannabis sativa, or some other remedy, which failing, he flies the track and gives buchu or saw palmetto in full quack doses—meanwhile his good friend mercurius corrosivus stands waiting.—*Hahnemann. Month.*, Phila., 1907, v. 42, p. 59.

Raue, C. Sigmund, employs the bichloride, in the third decimal trituration, in cases of syphilis associated with intestinal disturb-

ances when the mucous membrane of the mouth is in an unhealthy condition.—Tr. Am. Inst. Homœop., 1907, 63d session, p. 527.

Grelat, M. P., (*J. pharm. chim.*, 6, 25, 423–428) states that the use of mercuric chloride to preserve milk which is to be analyzed has many advantages. In the proportion of 0.2 gm. per liter it preserves the milk intact up to ten days.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 1588.

HYDRARGYRI CHLORIDUM MITE.

Beckmann, Ernst, discusses the chemical formula for mild mercurous chloride, reports a number of experiments, and concludes that the formula Hg_2Cl_2 is undoubtedly correct.—*Ztsch. f. anorg. Chem.*, 1907, v. 55, p. 178.

Burdon-Cooper, J., (*Lancet*) calls attention to a crystalline modification of calomel first isolated by Meyer in 1905, and describes its method of manufacture.—*Chem. & Drug.*, Lond., 1907, v. 70, p. 909.

An abstract discusses Japanese calomel, its origin and method of manufacture, and points out that although the process seems occult the product has some very valuable properties which should make it a desirable calomel behind the prescription counter.—*Nat. Druggist*, St. Louis, 1907, v. 37, p. 271.

An abstract outlines the following test for metallic mercury in calomel: 1 gm. of the suspected material is shaken with 10 cc. of a mixture of equal parts of nitric acid (25 per cent) and water, filtering and treating the filtrate with hydrogen sulphide. No blackening should result. This diluted nitric acid is said not to attack calomel, though it dissolves any free mercury present.—*Am. Druggist*, N. Y., 1907, v. 50, p. 136.

Caspari, Chas. E., (com. on adulterations) examined 37 samples; 30 satisfactory; 7 contained traces of corrosive sublimate.—*Proc. Missouri Pharm. Ass.*, 1907, p. 143.

Blome, Walter H., (com. on adulterations) asserts that many samples of calomel contain a trace of bichloride.—*Proc. Michigan Pharm. Ass.*, 1907, p. 67.

Vandermeulen, A., reports examining a number of ampoules of calomel which were said to contain 0.10 gm. of calomel in each cc. He found 0.036, 0.031 and 0.023 gm., respectively.—*Ann. de pharm. Louvain*, 1907, v. 13, pp. 97–98.

Carracido, José R., reports a study on the supposed incompatibility of calomel with sodium chloride. He concludes that the corrosive chloride of mercury is produced, but in quantities below the ordinarily toxic dose. The fact that poisoning has occurred the author believes to be due to the presence of colloidal mercury produced by the action of the alkaline secretions, albumin, hæmoglobin, and the protoplasm of the cell.—*Apoth. Ztg.*, Berl., 1907, v. 22, p. 5.

Hyman, Samuel M., reports a case of gonorrhœa of the mouth and states that the treatment included the use of calomel at bedtime, with local applications of silver nitrate solutions in increasing concentration.—*N. York M. J.*, 1907, v. 85, p. 169.

Newman, A. J., calls attention to the use of calomel in amounts larger than are necessary and states that he uses doses of one-tenth grain for the dry tongue seen in typhoid fever, and one-half grain doses with santonin for worms in children.—*J. Am. M. Ass.*, 1907, v. 49, p. 2030.

Marrs, W. T., states that no time should be lost in administering calomel in the treatment of phlegmasia dolens. The calomel acts as an antiseptic and stimulates every secretion.—*N. York M. J.*, 1907, v. 85, p. 602.

Lloyd cites Motherby's Medical Dictionary, 1775, as authority for the administration of a pound and a half of calomel in twenty-four hours in the treatment of yaws.—*Eclectic M. J. Cincin.*, 1907, v. 67, p. 382.

HYDRARGYRI IODIDUM FLAVUM.

Beckmann, Ernst, reviews some of the literature relating to the chemical composition of the mercurous haloids, reports a number of observations, and asserts that from his experiments both the mercurous bromide and the mercurous iodide have the double molecular formula.—*Ztsch. f. anorg. chem.*, 1907, v. 55, pp. 181-184.

Deming, Ralph, considers the protoiodide of mercury as the most useful form in the treatment of syphilis by mouth, though this, he believes, is the least effective method of employing mercury.—*Hahnemann. Month. Phila.*, 1907, v. 42, p. 428.

Raue, C. Sigmund, recommends mercurius iodatus flavus 2-x trituration, two grains three or four times daily, to be given in ordinary cases of syphilis. Later, if ulcerative lesions predominate, he prefers the red iodide.—*Tr. Am. Inst. Homoeop.*, 1907, 63rd session, p. 527.

HYDRARGYRI IODIDUM RUBRUM.

Orlow, N. A., (*Chem. Zeit.*, 1906, 30, 1301) discusses some reactions of mercuric iodide.—*Analyst London*, 1907, v. 42, p. 129.

Durrin, A., (*Compt. rend.*, 145, 713) has prepared the following compounds: $\text{FeI}_2 \cdot 2\text{HgI}_2 \cdot 6\text{H}_2\text{O}$; $\text{HgO} + 2\text{AlI}_3 \cdot 3\text{HgI}_2 \cdot 15\text{H}_2\text{O}$, and $2\text{AlI}_3 \cdot 5\text{AgI} \cdot 2\text{AgO}$.—*Chem. Abstr.*, *Am. Chem. Soc.*, 1908, v. 2, p. 379.

Reichard, C., discusses the possible use of mercuric iodide as a reagent for the differentiation of the haloid salts of alkali metals.—*Pharm. Ztg., Berl.*, 1907, v. 52, p. 221.

Davies, Seymour W., relates the circumstances of a case of poisoning with potassium mercuric iodide, with recovery under treatment.—*Brit. M. J.*, 1907, v. 2, p. 1775.

Raue, C. Sigmund, recommends the red iodide of mercury in cases of syphilis where ulcerative lesions predominate.—Tr. Am. Inst. Homœop., 1907, 63rd session, p. 527.

HYDRARGYRI OXIDUM FLAVUM.

Smith, J. Beddall, asserts that out of 10 samples only one gave less than 0.5 per cent of ash, the other ranging from 0.83 to 1.66 per cent. He calls attention to the Ph. Brit. requirements for yellow oxide of mercury and suggests that the monograph should be revised and standards fixed as has been done in the U. S. P. VIII.—Pharm. J. Lond., 1907, v. 24, p. 129.

Philipp Röder Wien, reports that of 2 samples of yellow oxide of mercury examined, one was evidently not prepared by precipitation.—Ztschr. d. Allg. österr. Apoth.-Ver., Wien, 1907, v. 45, p. 269.

The inspectors of pharmacies point out that the ointment of yellow mercuric oxide is frequently not sufficiently homogeneous.—Ann. de pharm., Louvain, 1907, v. 13, p. 377.

Marshall, Luther, points out the need for a thoroughly well triturated yellow oxide of mercury before incorporating it into an ointment and suggests the use of a few drops of oil of sweet almonds added to the oxide in a mortar or on a pill tile, and rubbing up well before adding the solid fat.—Bull. Pharm., 1907, v. 21, p. 379.

HYDRARGYRI OXIDUM RUBRUM.

Caspari, Chas. E., (com. on adulterations) examined 16 samples, all contained traces of nitrate.—Proc. Missouri Pharm. Ass., 1907, p. 145.

HYDRARGYRUM.

Rupp, E., discusses his proposed method for the iodometric estimation of mercuric salts by precipitating with alkaline formaldehyde solution and dissolving the resulting precipitate with N/10 iodine solution. He points out that one of the essential features of the latter part of the process is that the mixture be actively shaken for from one to two minutes.—Ber. d. deut. chem. Gesellsch., 1907, v. 40, III, p. 3276.

Désesquelle, presents a tabulated statement of the assay of mercurial preparations for hypodermic injection.—Répert. de pharm., Par., 1907, v. 19, p. 519.

Robertson, P. W., describes a volumetric method of estimating mercury which he thinks accurate, rapid, and applicable to mercurous salts by first boiling with nitric acid and then diluting.—Chem. News, Lond., 1907, v. 95, pp. 254-255. (See also Pharm. J. Lond., 1907, v. 24, pp. 745-746.)

Pépin, Camille, contributes some practical notes on gray oil.—*J. de pharm. et de chim.*, Par., 1907, v. 25, pp. 283–286.

Lafay, presents a new formula for gray oil.—*Ibid.*, v. 25, p. 320. (See also v. 26, pp. 491–498.)

Dumesnil, apropos of the above, presents a further discussion of “injectable” oils, especially gray oil, together with a committee report on the latter.—*Ibid.*, v. 26, pp. 529–534, 534–536.

Sabbatani, L., discusses sulphuric acid as a general antidote to mercury, from the standpoint of physico-chemistry.—*Arch. internat. de pharmacod. et de thérap.*, Par., 1907, v. 17, pp. 319–341.

Fiessinger, Noel, discusses the renal and hepatic lesions in the course of mercurial intoxication: one plate, four figures.—*J. de physiol. et de path. gén.*, Par., 1907, v. 9, pp. 470–480. An abstract is also given in *Compt. rend. Soc., de biol.*, Par., 1907, v. 62, pp. 240–242.

Bartsch (München. med. Wchnschr., Oct. 22) reports four deaths resulting from the mercurial treatment of syphilis. In three of the cases the mercury was injected, and in the fourth it was used by inunction.—*N. York M. J.*, 1907, v. 86, p. 946.

Salmon, Paul, discusses the influence of local anæsthesia on the pain consecutive to injections of soluble salts of mercury.—*J. de pharm. et de chim.*, Par., 1907, v. 25, p. 216.

Pernet, George, discusses the use of mercury in different forms and ways in the treatment of syphilis.—*Brit. M. J.*, 1907, v. 1, pp. 730–735.

Bernart, William F., discusses the values of different mercurial preparations with the time required for obtaining parallel results by different modes of administration, including inunction, intravenous, intramuscular, and internal.—*N. York M. J.*, 1907, v. 86, p. 263.

Raue, C. Sigmund, points out that mercury may ordinarily be given by the mouth, but when the symptoms are urgent, as they frequently are in the hereditary form of the disease, we must get a quick action of the drug if we wish to save the case. For this purpose inunctions of mercurial ointment three times daily may be employed. More recently he has been impressed with the superiority in desperate cases of the hypodermatic injection of mercury.—*Tr. Am. Inst. Homœop.*, 1907, 63rd session, p. 527.

For additional references on the use of mercury see *Index Medicus* and the *J. Am. M. Ass.*

HYDRARGYRUM AMMONIATUM.

Schmidt, Ernst, discusses the chemistry of ammoniated mercury and reports some experiments to determine the action of methyl iodide on white precipitate.—*Ztschr. d. Allg. österr. Apoth.-Ver.*, Wien, 1907, v. 45, pp. 541–543.

Rupp and Lehmann outline a method for the acidimetric determination of ammoniated mercury by dissolving in water with the aid of potassium iodide and titrating the solution with N/10 solution of hydrochloric acid, using an alcoholic solution of methyl orange as an indicator.—*Pharm. Ztg.*, Berl., 1907, v. 52, p. 1014.

Philipp Röder (*Jahresbericht*, Wien, 1907, p. 82) reports on 11 samples of ammoniated mercury examined. Eight were rejected; 3 samples contained an excess of chloride, while 5 additional samples contained chlorides and rhodanides.

Caspari, Chas. E., (com. on adulterations) examined 5 samples; 3 satisfactory, 2 contained carbonate.—*Proc. Missouri Pharm. Ass.*, 1907, p. 143.

HYDRARGYRUM CUM CRETA.

Cleland is reported as asserting that mercury with chalk, unless kept in well-corked or stoppered bottles, deteriorates, and gives reactions for mercuric compounds.—*Pharm. J. Lond.*, 1907, v. 24, p. 61.

Caspari, Chas. E., (com. on adulterations) examined 5 samples; 1 satisfactory; 4 contained oxides of mercury.—*Proc. Missouri Pharm. Ass.*, 1907, p. 144.

Gilmour, J. P., reports 2 out of 8 samples below Ph. Brit. standards; HgO present.—*Year Book Pharm. Lond.*, 1907, pp. 446–455.

HYDRASTINA.

Warren and Weiss describe and figure hydrastine picrolonate and discuss the use of picrolonic acid as a reagent for hydrastine.—*Journ. Biol. Chem.*, N. Y., 1907, v. 3, p. 337.

French, J. M., reviews the physiological action of hydrastine and compares its action and uses with strychnine.—*Merck's Arch.*, N. Y., 1907, v. 9, pp. 105–107.

Abogado, E. L., reviews the subject of hydrastine in uterine hæmorrhage.—*Crón. méd. mex.*, 1907, v. 10, pp. 14–16.

HYDRASTININÆ HYDROCHLORIDUM.

Riedels *Berichte* (Berlin, 1907, p. 66) describes the characteristic properties of hydrastinine picrate and suggests the determination of the melting point of this compound as a possible test for the identity of hydrastinine. The substance forms orange-yellow leaflets melting at 170° C.

Williams, William Whitridge, reports experiments to determine the effects of hydrastis and its alkaloids on blood pressure, and concludes that hydrastinine causes a rise of blood pressure above normal, which is usually preceded by a slight fall when injected intravenously. The rise is well sustained and is principally caused by

stimulation of the cardiac muscle.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1907, p. 197.

HYDRASTIS.

Henkel, Alice, describes and figures *Hydrastis canadensis* L., commonly known as yellow root, yellow puccoon, orange root, yellow Indian paint, turmeric root, Indian turmeric, Ohio curcuma, ground-raspberry, eye root, eye balm, yellow eye, jaundice root, Indian dye.—Bull. Bur. Plant Ind., U. S. Dept. Agric., 1907, No. 107, pp. 31–33.

Dohme, A. R. L., expresses the belief that hydrastis is being manipulated and that the prevailing high price is not due, entirely at least, to a scarcity of the article. The quality is fair, many samples assaying much over 3 per cent of hydrastine.—D.-A. Apoth.-Ztg., N. Y., 1907, v. 28, p. 133.

Perrot, E., finds this drug adulterated by the addition of the roots of Monesia and of Plantain; and asks why its culture is not undertaken in France.—Bull. d. sc. pharmacol. Par., 1907, v. 14, p. 348.

Kollo, Constantin, suggests the use of Meyer's reagent for the quantitative determination of hydrastine in fluid extract of hydrastis. He does not consider the method as being absolutely accurate but believes that the approximate results obtained are sufficient indication of the value of any given preparation.—Pharm. Post, Wien, 1907, v. 40, pp. 912–914.

Matthes and Rammstedt discuss the application of picrolonic acid to the estimation of the alkaloid content of pharmaceutical preparations of hydrastis.—Arch. d. Pharm., 1907, v. 245, pp. 127–131.

Cæsar and Loretz (Geschäfts Ber., 1907, p. 89) discuss the assay of hydrastis and the official requirements for fluid extract of hydrastis. The Ph. Belg. requires 20 per cent and the Ph. Austr. 25 per cent of dry extract. The Ph. Germ., Ph. Ndl., and the U. S. P. all require 2 per cent of hydrastine.

Puckner, W. A., reviews the work done in 1906, on the assaying of hydrastis.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 324.

Heyl, Georg, replies to the criticisms made by van der Haar, of his modification of the Ph. Germ. assay for hydrastis and compares this method with the modification of the Rusting-Smeets method proposed by van der Haar. He concludes that the latter method and also the method of the Ph. Ndl. give results that are too low.—Apoth. Ztg., Berl., 1907, v. 22, pp. 907–908.

van der Haar, A. W., discusses the results obtained by Heyl and reasserts that the method as outlined will give correct results.—*Ibid.*, v. 22, p. 1058.

Hankey, William T., asserts that his experience with hydrastis has been very satisfactory. The rhizome usually yields from 2.75 to

3 per cent hydrastine, which is better than 2.5 per cent required by the U. S. P. VIII.—Proc. Pennsylvania Pharm. Ass., 1907, p. 70.

Blome, Walter H., (com. on adulterations) reports that golden seal generally assays high.—Proc. Michigan Pharm. Ass., 1907, p. 68.

Gausby, R. A., points out that hydrastis has been particularly good during the past year, some samples assaying as high as 3.072 per cent of hydrastine.—Proc. Pennsylvania Pharm. Ass., 1907, p. 73.

Sayre, L. E., reports on 18 assays of hydrastis which yielded from 1.55 to 2.95 per cent of hydrastine. Average 2.24 per cent.—Bull. Kansas Bd. Health, 1907, p. 44.

Vanderkleed, Charles E., reports 11 assays of hydrastis ranging from 2.5 to 4.4 per cent.—Proc. Pennsylvania Pharm. Ass., 1907, p. 89.

Spindler reports that 6 out of 17 samples of fluid extract of hydrastis examined were unsatisfactory. Three additional samples barely complied with the Pharmacopœial requirements.—Suedd. Apoth. Ztg., 1907, v. 17, p. 50.

Cæsar and Loretz (Geschäfts Ber., 1907, p. 50) found the hydrastine content of the better grades of hydrastis to vary from 2.68 to 4.04 per cent.

Philipp Röder (Jahresbericht, Wien, 1907, p. 104) reports on 11 samples of hydrastis which varied from 3.19 to 8.93 per cent of ash and from 2.16 to 2.86 per cent of hydrastine.

Lisin, F., reviews the literature and records some additional observations on the cardio-vascular influence of hydrastis.—Arch. internat. de Pharmacod. et de Thérap., 1907, v. 17, p. 480.

Kinyon, C. B., points out that hydrastis is indicated more for diseased conditions manifesting themselves between the menses than for disorders of menstruation.—Tr. Am. Inst. Homœop., 1907, 63rd session, p. 386.

Adams, E. O., points out that hydrastis is a useful remedy in gastro-enteric diseases where there is much mucus, ropy in character.—Tr. Am. Inst. Homœop., 1907, 63rd session, p. 369.

Williams, William Whitridge, reports experiments to determine the effects of hydrastis and its alkaloids on blood pressure, and concludes that the results of this investigation do not support the clinical theories concerning hydrastis.—Tr. Am. M. Ass. Sec. Pharm. and Therap., 1907, pp. 185-197.

HYOSCINÆ HYDROBROMIDUM.

Dohme and Englehardt point out that hyoscyne hydrobromide with the melting point 179.7° C. was often optically inactive and believe it is preferable to use a salt which has, in a 6.5 per cent aqueous solution in a 100 mm. tube at 15.8° C., a specific rotation of 25.5°. By this determination any adulteration with apoa tropine will be shown.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 380.

Troxell, H. L., (com. on adulterations) points out that sometimes the optically inactive salt occurs with a melting point of 180° C. Although this salt is therapeutically as active as the United States Pharmacopœia salt, it had to be rejected on account of the U. S. P. melting point. Besides the melting point the U. S. P. should give in this case of the salt, to distinguish the two varieties, the optical rotation, this being for a $6\frac{1}{2}$ per cent solution in a 100 mm. tube about -25° .—Proc. Maryland Pharm. Ass., 1907, p. 86.

Thurston, Azor, asserts that hyoscyne hydrobromide is lævogyrate in aqueous solution.—Merck's Report, N. Y., 1907, v. 16, p. 124. (See also under *Scopolaminæ hydrobromidum*.)

HYOSCYAMUS.

Lyons, A. B., describes a spurious henbane which has recently appeared in our market "as coming from a new source of supply." He believes that the drug is derived from *Hyoscyamus muticus* L., which when grown in Egypt contains about the same proportion of alkaloid as that of the spurious henbane.—Am. Druggist, N. Y., 1907, v. 51, p. 390.

An editorial comments on a spurious henbane described by A. B. Lyons, which is found to contain 0.8 per cent of mydriatic alkaloids, or about ten times the total quantity present in the official *Hyoscyamus niger*.—*Ibid.*, v. 51, p. 385.

Philipp Röder Wien outlines a method for the determination of mydriatic alkaloids in hyoscyamus and calls attention to the fact that the Ph. Austr. VIII prescribes an extract content and a limit of ash but no alkaloid content.—Ztschr. d. Allg. österr. Apoth. Ver., Wien, 1907, v. 45, p. 254.

Sayre, L. E., reports on 21 assays of hyoscyamus which yielded from 0.05 to 0.14 per cent of total alkaloids. Average 0.09 per cent.—Bull. Kansas Bd. Health, 1907, p. 44.

Blome, Walter H. (com. on adulterations), reports that hyoscyamus frequently assays low. One sample examined contained sand, dirt, feathers, gravel, and straw.—Proc. Michigan Pharm. Ass., 1907, p. 68.

Vanderkleed, Charles E., (com. on adulterations) reports 1 sample of henbane leaf assaying 0.070 per cent.—Proc. Pennsylvania Pharm. Ass., 1907, p. 88.

Caspari, Chas. E., (com. on adulterations) examined 3 samples, all weak.—Proc. Missouri Pharm. Ass., 1907, p. 147.

Gane, E. H., reports the examination of 12 lots which assayed from 0.04 per cent to 0.12 per cent. One sample of tops of *Hyoscyamus muticus* assayed 1.1 per cent of alkaloids. This should be worth cultivating instead of *Hyoscyamus niger*.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 326.

Patch, E. L., examined 9 lots varying from 0.0436 to 0.073 per cent.—*Ibid.*, v. 55, p. 326.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 24) examined 3 samples of extract of hyoseyamus of English make which yielded .05, .04, and .04 per cent respectively of alkaloid.

Philipp Röder (Jahresbericht, Wien, 1907, p. 56) found that the 5 samples of extract of hyoseyamus examined varied from 0.225 to 0.314 per cent of alkaloids.

Kouffeld, J. Q., reports an examination of extract of hyoseyamus and outlines a method for preparing a water soluble extract of hyoseyamus.—Pharm. Weekbl., 1907, v. 44, pp. 997-1000.

The committee of reference in pharmacy points out that the international extract of hyoseyamus is, in all probability, an inconvenience and may even be a source of danger unless properly standardized.—Chem. & Drug. Lond., 1907, v. 70, p. 587.

Rosenberger, A. S., points out that hyoseyamus is a remedy that has served him well. The cough may have commenced in a case of influenza or have been produced by some other cause. The patient is strictly nervous and has an aggravation of cough on lying down.—Tr. Am. Inst., Homœop., 1907, 63rd session, p. 420.

INFUSA.

Farr and Wright discuss the preparation of concentrated infusions by repercolation and macero-expression, and present a number of formulas for concentrated infusions, the preparation being directed to be preserved by the addition of a small percentage of alcohol or by chloroform.—Pharm. J. Lond., 1907, v. 24, pp. 621-622.

IODOFORMUM.

Mitchell, Edward, points out that iodoform is frequently below the standard. His firm this year returned to manufacturers two lots of this chemical.—Proc. Arkansas Pharm. Ass., 1907, p. 90.

Gerrard, A. W., outlines methods for the preparation and preservation of iodoform cotton and gauze; also outlines methods for the detection of adulteration of iodoform surgical dressings.—Pharm. J. Lond., 1907, v. 25, pp. 674-675.

Klose, G., found that adeps lanæ dissolves approximately 5 per cent of iodoform at 45° C.—Arch, internat. de Pharmacod. et de Thérap., 1907, v. 17, p. 463.

Taltavall and Gies (N. Y. M. J., etc., 1907, 84, 726) report absence of iodine from the liver in a case of iodoform poisoning.—Reference from Index Medicus, 1907, v. 5, p. 1154.

Diesing (Deutsche med. Wchnschr., Berl. u. Leipz., v. 33, No. 20) reports the use of iodoform in olive oil for injection in the treatment of leprosy. He reports that in his experience all mild,

uncomplicated cases of leprosy and a large percentage of the severe cases, are cured by this method. The technic is given.—*J. Am. M. Ass.*, 1907, v. 49, p. 286.

Meurers (*Beitr. z. klin. Chir.*, von Bruns' Tübingen, v. 56, No. 1) details the use of Mosestigs iodoform filling in 45 cases of extensive bone defect. It was found extremely valuable.—*Ibid.*, 1908, v. 50, p. 321.

An obituary notice of Mosestig states that he introduced iodoform into surgery in 1880.—*N. York M. J.*, 1907, v. 85, p. 847.

IODUM.

An unsigned article describes the method of manufacturing iodine in Japan.—*Chem. & Drug. Lond.*, 1907, v. 71, p. 555.

Assendowski, A. M., (*Journ. d. russ. phys. chem. Ges.*, 1906, p. 1081) discusses the production of iodine in Japan and records the iodine content of the several specimens of plants that are used.—*Pharm. Ztg.*, Berl., 1907, v. 52, p. 169.

Frank, A., discusses the occurrence of iodine in the Stassfurt potash deposits and points out that the assumption that the potash deposits at Stassfurt are free from iodine is not well founded, in view of the fact that this deposit is evidently formed from sea water.—*Ztschr. f. ang. Chem.*, Berl., 1907, v. 20, p. 1279.

Charitschkow, K., (*Techn. Westnik*, 1907, p. 106) points out that the water accompanying the petroleum found in various parts of the world contains variable proportions of iodine and suggests that this source should be developed.—*Jahresb. d. Pharm. Göttingen*, 1907, 1908, v. 42, p. 133.

Tunmann discusses the widespread occurrence of iodine, reviews some of the literature, and outlines a method for quantitatively determining iodine in organic substances.—*Pharm. Zentrabl.*, 1907, v. 48, pp. 505-509.

Clarke, F. W., in the report of the international committee on atomic weights, says that Gallo has determined the atomic weight of iodine electrolytically, comparing the iodine liberated by a current with the silver deposited. His values range from 126.82 to 126.98, or, in mean, 126.89 when $\text{Ag}=107.93$. This result is more nearly in accord with the determination by Stas than with the later measurements.—*J. Am. Chem. Soc.*, 1907, v. 29, p. 109. (See also p. 252.)

Lewis and Wheeler discuss the electrical conductivity of solutions in fluid iodine and record a number of experiments on the conductivity of pure iodine.—*Ztschr. d. physik. Chem.*, 1907, v. 56, pp. 179-192.

Baxter, Hickey and Holmes contribute a paper on the vapor pressure of iodine.—*J. Am. Chem. Soc.*, 1907, v. 29, pp. 127-136.

Cormimbœuf, H., proposes a method for the estimation of true iodine in crude or sublimed iodine.—*Ann. de chim. analyt. Par.*, 1907, v. 12, p. 307.

Nishizaki, K., discusses the method of iodine estimation as outlined by Topf, and points out that this method gives better and more accurate results than any other methods.—*J. Pharm. Soc., Japan*, 1907, p. 751.

Seidell, Atherton, describes a new standard for use in the colorimetric determination of iodine consisting of an aqueous solution of Fuchsin S.—*Journ. Biol. Chem., N. Y.*, 1907, v. 3, pp. 391-393.

Kurbatow, V., discusses a new polymeric form of iodine from which he believes a new practical rule for the sublimation of iodine may be deduced.—*Ztschr. f. anorg. Chem.*, 1907, v. 56, pp. 230-232.

Patch, E. L., examined 7 samples ranging from 98.89 per cent to 100 per cent.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 326.

Bachman, Gustav, (com. on adulterations) reports iodine ranging from 97.15 to 92.8 per cent, instead of 99 per cent, as required.—*Proc. Minnesota Pharm. Ass.*, 1907, p. 41.

Pouchet (Courier Médical) calls attention to certain incompatibilities of the iodides. He points out that they should not be prescribed with acids, the peroxides, or paraldehyde, all of which liberate iodine. Iodides are also incompatible with the heavy metals and they should not be given in connection with alkaloidal salts.—*Drug Topics, New York*, 1907, v. 22, p. 100.

Klose, G., found that adeps lanæ dissolves practically 5.50 per cent iodine at 45° C. when estimated according to the method of Carius.—*Arch. internat. de Pharmacod. et de Thérap.*, 1907, v. 17, p. 462.

Rupp and Kost outline a method for determining the iodine content of ointments containing iodine or iodides.—*Suedd. Apoth. Ztg.*, 1907, v. 47, p. 244.

Greenish, Henry G., points out that the international agreement requires 1 in 10 of 95 per cent alcohol. All the pharmacopœias agree except the U. S., which requires 7 per cent.—*Pharm. J. Lond.*, 1907, v. 24, p. 833.

Bührer, C., points out that the U. S. P. is the only one of the recently published pharmacopœias that does not comply with the requirements of the international protocol.—*Schweiz. Wehnschr. f. Chem. u. Pharm. Zürich*, 1907, v. 45, p. 419.

Mittlebach, William, criticises the U. S. P. formula for tincture of iodine and points out that dentists do not find the present preparation suitable for their work. He believes this fact should be brought to the attention of the committee on revision, as dentists use about as much tincture of iodine as any class of medical practitioners.—*Proc. Missouri Pharm. Ass.*, 1907, p. 52.

La Wall, C. H., reports experiments to determine the keeping qualities of tincture of iodine under varying conditions, and concludes that the U. S. P. formula for tincture of iodine yields a product that is permanent under practically all conditions.—Proc. Am. Pharm. Ass., 1907, v. 55, pp. 156-159.

Narbona, Luis, (Gazeta Farmacéutica Española, p. 86) reports experiments to determine the action of borax on tincture of iodine. He expresses the belief that the addition of borax does not reduce the activity of the tincture while it tends to neutralize the hydriodic acid that is formed and thus eliminates the irritating action frequently met with in old tinctures.—Apoth. Ztg., Berl., 1907, v. 22, p. 521.

Hugenholtz, C., reports an investigation of tincture of iodine and its deterioration. His results appear to indicate that tincture of iodine keeps rather better in vials only partially filled, and preserved with access of light.—Pharm. Weekbl., 1907, v. 44, pp. 218-220.

Barnard, H. E., reports that of 148 samples of tincture of iodine analyzed during the year, 88 were below standard, while 60 were pure, this being equivalent to a percentage of adulteration of 59.4 per cent.—Rep. Indiana Bd. Health, 1907, p. 193.

Lythgoe, Hermann C., reports 237 samples of tincture of iodine examined, 47 of which were adulterated.—Rep. Massachusetts Bd. Health, 1907, 1908, p. 385.

The N. Y. State board of health, eastern branch, reports 513 samples examined, 36 deficient.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 326.

The Mass. State board found six samples deficient; 61 per cent to 71 per cent of required amount.—*Ibid.*, v. 55, p. 326.

Baird, J. W., (com. on adulterations) reports on 173 samples; 76 genuine, 97 adulterated.—Proc. Massachusetts Pharm. Ass., 1907, p. 40.

Blome, Walter H., (com. on adulterations) reports on a number of samples of tincture of iodine; none of the samples contained wood alcohol; all but one were more or less deficient in iodine.—Proc. Michigan Pharm. Ass., 1907, p. 68.

Dunbar-Brunton, J., (Brit. M. J., Nov. 16) states that if iodine be painted on to the skin in the dark and then exposed to a red light only, the part being then covered so as to exclude white light, absorption will take place rapidly, and there will be no discoloration or blistering even under prolonged use.—J. Am. M. Ass., 1907, v. 49, p. 2041.

An unsigned abstract from St. Louis Med. Rev. states that in a solution of iodine varying from 0.2 to 1 per cent, we have a very potent germicidal agent, far superior to mercury bichloride.—Dental Cosmos, Phila., 1907, v. 49, p. 213.

Riddell, J. Scott, discusses the value of iodine in the sterilization of catgut.—Brit. M. J., 1907, v. 1, p. 809.

Maberly, John, reports two cases of poisoning with carbolic acid, crude, in which iodine was used with alleged prompt relief.—Lancet, Lond., 1907, v. 173, p. 293.

Knowles, J., relates that in 1866 Dr. Powell demonstrated that rattlesnake virus mixed with iodine was nontoxic. When the virus and iodine were injected simultaneously near together, the animals survived.—J. Am. M. Ass., 1907, v. 49, p. 1460.

Feigl, Johann, in his experimental research on the influence of medicaments on gastric secretion, makes a contribution to the knowledge of the action of iodine in promoting secretion.—Biochem. Zeitschr. Berl., 1907, v. 8, pp. 466-519.

Loeb, Oswald, reports experiments to determine the distribution of iodine in the body following the use of various combinations of iodine.—Arch. f. exper. Path. u. Pharmakol., Liepz., 1907, v. 56, pp. 320-332.

Loeb and Fleischer studied the influence of iodine preparations on the vascular lesions produced by adrenalin, and state that these do not prevent the arterial lesions produced in the rabbit by adrenalin injections. No beneficial action was seen from the use of iodine.—Am. J. M. Sc., Phila., 1907, v. 133, pp. 903-911.

Stewart, W. R., points out that the iodine patient is dark, emaciated, thin, and scrawny, with ravenous appetite. The glandular swellings are general and the glands are of ivory hardness.—Tr. Am. Inst., Homœop., 1907, 63rd. session, p. 495.

IPPECACUANHA.

Remington, Joseph P., reports that the U. S. P. standard for ipecac is *now* 1.75 per cent of ipecac alkaloids. Fluidextract of ipecac *now* 1.5 gm. alkaloid in 100 cc.—Am. J. Pharm. Phila., 1907, v. 79, p. 135.

Farwell, O. A., calls attention to a sample of "ipecac" from South America, from that section which produces ipecac. The roots are rather soft, of varying lengths, and of about the thickness of Carthage ipecac. An assay of the drug for alkaloids, according to the process given in the Pharmacopœia of the United States, gave negative results.—Drug. Circ., N. Y., 1907, v. 51, p. 459.

Puckner, W. A., reviews the literature of 1906 relating to the assay of ipecac.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 325.

Cæsar and Loretz (Geschäfts Ber., 1907, p. 46) assert that the average alkaloid content of good quality of ipecac root is 2.5 per cent and question the advisability of reducing the already low (2 per cent) requirement of the U. S. P. to 1.75 per cent.

Spindler asserts that a good Rio ipecac always yields from 2.5 to 2.9 per cent of alkaloids in place of the 2 per cent required by the Ph. Germ. IV.—Suedd. Apoth. Ztg., 1907, v. 47, p. 50.

Evans Sons Lescher and Webb (Analytical Notes, 1907-8, p. 25) compared the alkaloidal content of three varieties by the U. S. P. method. Rio, 1.78 per cent total alkaloid; Jahore, 1.81 per cent, and Carthagena, 2.14 per cent total alkaloid.

Cæsar and Loretz (Geschäfts Ber., 1907, pp. 100-101) outline their method of assay for ipecac and point out that the Ph. Ndl., Ph. Austr., Ph. Suec., and Ph. Belg., all require 2 per cent of alkaloids; the Ph. Germ. 2.03 per cent, the Ph. Helv. from 2.25 to 2.5 per cent, and that the U. S. P. has reduced its former requirement of 2 per cent to 1.75 per cent.

Bernardino, Peroni, reports studies and experiments on the distinguishing reactions of emetine. He outlines a test for emetine which depends on a peacock-blue coloration produced in sulphuric-acid solutions of potassium permanganate. A sulphuric-acid solution of iodic acid gives an orange-red color that gradually changes to orange-violet.—Boll. chim. farm. Milano, 1907, v. 46, pp. 273-280.

Naylor and Chappell review the assays of ipecac and record the results obtained with several different processes.—Brit. & Col. Drug. Lond., v. 51, p. 258.

An unsigned article discusses the importation of ipecac into the United States and points out that the custom-house examiners have decided to exclude all importations that do not come up to the U. S. P. test of 2 per cent of total alkaloids. In an analysis of 12 samples, made by a certain importer, it was found that every one assayed below 2 per cent, although nearly all were above 1.75 per cent.—Pharm. J. Lond., 1907, v. 24, p. 17.

Hallberg, C. S. N., asserts that when the pure food and drugs law went into effect it was found that there were hundreds of bales of ipecac in warehouses in New York which could not be sold because the drug contained 1.75 per cent of the active principle emetine while the pharmacopœia has fixed it at 2 per cent.—Proc. Arkansas Pharm. Ass., 1907, p. 28.

Hankey, William T., points out that a few years since there was considerable trouble experienced in securing the official variety of ipecac since the cheaper variety was commonly substituted, especially when in the powdered form. Since both varieties are now admitted to the U. S. P. this trouble no longer exists. He also points out that there was considerable difficulty experienced in securing ipecac which would assay the required 2 per cent alkaloids, but since the new supplement to the U. S. P. VIII has reduced the standard to 1.75 per cent, a very much larger percentage of the

samples examined by him comply with the official requirements.—Proc. Pennsylvania Pharm. Ass., 1907, p. 70.

An editorial points out that a quantity of ipecac impounded by the Government for some time has been at last set free. The drug did not quite measure up to the standard of the U. S. P. test of 2 per cent of total alkaloids, so with the whole country talking about pure food and pure drugs, it is hardly to be wondered at that the appraisers were undecided about admitting a drug below the accepted standard.—Oil, Paint and Drug Reporter, N. Y., 1907, v. 71, Jan. 28, p. 7.

Vanderkleed, Charles E., reports 15 assays of ipecac ranging from 1.8 to 3 per cent. He asserts that the quality is very good and that there is no good reason for reducing standard from 2 to 1.75 per cent of alkaloids.—Proc. Pennsylvania Pharm. Ass., 1907, p. 89.

Gausby, R. A., asserts that ipecac frequently assayed considerably under the U. S. P. VIII requirements for alkaloids, but as the whole root is seldom or never demanded by the retailer, it being chiefly sold in the form of fluid extract and powder, the manufacturer is easily enabled to meet the official requirements by a proportionately increased amount of drug or the elimination of a portion of the inert central woody portion during the process of powdering.—*Ibid.*, 1907, p. 73.

Blome, Walter H., (com. on adulterations) reports that ipecac is frequently low under the former 2 per cent requirement.—Proc. Michigan Pharm., 1907, p. 69.

Hankey, W. T., asserts that 75 per cent of all samples are below the 2 per cent which was required by the U. S. P. 1.75 per cent is a fair average.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 326.

Gane, E. H., reports the examination of 10 lots of Rio varying from 1.7 per cent to 2.27 per cent; 10 lots of Carthagena, from 2.1 per cent to 2.70 per cent; 1 lot of Jahore, 2.09 per cent.—*Ibid.*, v. 55, p. 326.

Patch, E. L., examined 9 lots varying from 1.45 per cent to 2.19 per cent.—*Ibid.*, v. 55, p. 326.

Caspari, Chas. E., (com. on adulterations) examined 3 samples; 2 satisfactory, 1 weak.—Proc. Missouri Pharm. Ass., 1907, p. 147.

Philipp Röder (Jahresbericht, Wien, 1907, p. 104) reports on 9 samples of ipecac. One sample contained 11.75 per cent of ash and the remaining 8 varied from 2.67 to 5.16 per cent. The alkaloid content of the accepted samples varied from 2.20 to 2.91 per cent.

Naylor, W. A. H., reviews the U. S. P. process for determining the alkaloid in fluid-extract of ipecac and points out some of its defects. He asserts that ether is not a very satisfactory solvent for shaking out ipecacuanha alkaloids, and believes that chloroform would be more satisfactory.—Am. Druggist, N. Y., 1907, v. 50, p. 356.

Roehr, Clarissa M., discusses the official process for the assay of fluid extract of ipecac, and points out that this preparation may be assayed successfully either by the official process given for the assay of belladonna, by Professor Gordin's process, or by Professor Lyons' process, but not by the present official method.—*Pacific Pharm.*, San Francisco, 1907, 1908, v. 1, pp. 352-354.

Naylor and Chappell discuss the U. S. P. process of assay for fluid-extract of ipecac, and compare the results obtained with the results obtained by the authors' standard processes when applied to the same sample of extract.—*Pharm. J. Lond.*, 1907, v. 24, p. 394.

Taylor, F., (*Brit. J. of Children's Dis.*, Lond., Sept.) states that it is his custom to give ipecacuanha in bronchopneumonia, though its mode of action seems doubtful; but he thinks that it modifies the bronchial secretion, and he believes it does more good in this way than by driving the already formed secretion out through the larynx.—*J. Am. M. Ass.*, 1907, v. 49, p. 1724.

Bloyer thinks that of all the remedies of the materia medica with which he has had experience, not one has given the full measure of satisfaction that has come from the use of ipecacuanha.—*Eclectic M. J.*, Cincin., 1907, v. 67, pp. 622-626.

Kinyon, C. B., points out that ipecac is indicated by "a continuous flow of bright red blood with cutting pain about the umbilicus; pressure in the uterus and rectum; hemorrhage following confinement or miscarriage; especially does this occur after the delivery of the placenta.—*Tr. Am. Inst. Homœop.*, 1907, 63d session, p. 387.

Rosenberger, A. S., points out that when the bronchial symptoms prevail we need to look to such remedies as ipecac.—*Ibid.*, 1907, 63d session, p. 420.

Additional references on the use of ipecacuanha will be found in the *Index Medicus* and *J. Am. M. Ass.*

JALAPA.

Jackson, John R., describes and figures a growing plant of *Jalapa*.—*Pharm. J. Lond.*, 1907, v. 25, p. 100.

Remington, Joseph P., reports that the U. S. P. standard for jalap root is now 7 per cent of total resin.—*Am. J. Pharm.*, Phila., 1907, v. 79, p. 135.

Troxell, H. L., (com. on adulterations) points out that although the United States Pharmacopœia has reduced the per cent of resin to 7, it is difficult to find root answering required strength. "Moore" examined 276 samples of root and found figures ranging from 15.5 per cent to 2.1 per cent, an average of 5.95 per cent. It is claimed frequently that the jalap root is deprived of its resin by washing with alcohol before shipping, but whether or not this assertion is true is not verified.—*Proc. Maryland Pharm.*, 1907, p. 86.

Dohme and Englehardt point out that although the requirement of the U. S. P. for jalap root has been cut down to 7 per cent resin, it is very difficult to find a root with the required amount. They call attention to the examination of 276 samples by Moore in which he found figures ranging from 15.63 to 2.1 per cent, with an average of 5.95 per cent. Only 26 of the samples assayed above 9 per cent.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 380.

Joyce, T. G., presents a note on recent samples of jalap and reports an examination of 13 samples. He points out that during the last two years he has had difficulty in obtaining samples that conform with the Pharmacopœia requirements, the highest percentage of total resin obtained being 11.46, while the majority of samples yielded amounts ranging between 6 and 8 per cent.—*Chem. & Drug. Lond.*, 1907, v. 70, p. 488.

Blome, Walter H., (com. on adulterations) says that jalap was usually of better quality during the past year. Since the reduction to 7 per cent of total resin the drug usually complies with the pharmacopœial demands.—*Proc. Michigan Pharm. Ass.*, 1907, p. 69.

Hankey, W. T., examined 9 samples containing a resin content of from 6.42 to 13.36 per cent; ether soluble 0.92 to 2.35 per cent.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 326.

Gane, E. H., examined 10 lots varying from 8.83 per cent to 11.7 per cent total, and from 1.38 per cent to 2.01 per cent ether soluble.—*Ibid.*, v. 55, p. 326.

Patch, E. L., reports two lots examined which assayed 11.43 per cent and 13.00 per cent total resin; and 1.18, 1.38 per cent ether soluble.—*Ibid.*, v. 55, p. 326.

Philipp Röder (*Jahresbericht, Wein*, 1907, p. 105) reports on 5 samples of jalap which varied from 8.76 to 13.75 per cent of resin content, and from 3.75 to 4.49 per cent of ash.

Cæsar and Loretz (*Geschäfts Ber.*, 1907, p. 91) discuss the estimation of the resin content of jalap and point out that the Ph. Helv., Ph. Suec., and U. S. P. require 7 per cent, Ph. Germ. 9 per cent, and Ph. Japon. 10 per cent of resin.

Mossler, Gustav, examined 2 samples of jalap, which contained 4.12 and 3.81 per cent respectively of ash, and 9.8 per cent and 5.6 per cent of resin.—*Ztschr. d. Allg. österr., Apoth.-Ver.*, Wien, 1907, v. 45, p. 55.

Evans Sons Lescher and Webb (*Analytical Notes*, 1907, 1908, p. 27) found the amount of resin extracted from 14 lots to range from 7.5 to 11 per cent. The figures were obtained after drying and powdering large quantities of the drug, the loss of weight on drying amounting to from 3 to 14 per cent.

Déer points out that the several pharmacopœial descriptions of resin of jalap are either simple reproductions or at least based on

the Ph. Germ. (III and IV) monograph. He reviews the reputed properties of this substance and records his own experience on the solubility and the tests for identity and purity.—Apoth. Ztg., Berl., 1907, v. 22, pp. 862-864.

Guignes, P. (Bull. sc. pharmacol. Par.), regards the ether solubility of jalap resin, generally accepted as criterion of identity, as being insufficient, and particularly so in cases of adulteration with such resins as colophonium, mastic, guaiac, sandarac, etc. In such cases he recommends the polarimetric method, which he describes.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 681.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 27) found the acid value of a batch of resin of their make to be 22.4, and its saponification value 179.2. Only 4.6 per cent was soluble in ether.

McDowell, Ralph W., recommends the use of compound powdered jalap or of a large dose of calomel, followed by a saline purge, in the treatment of delirium tremens. A number of drugs are discussed.—N. York M. J., 1907, v. 86, p. 1025.

KAOLINUM.

Porter, J. T., (U. S. Geol. Survey, Bull. 315, 268-290) gives in detail the results of work done in the laboratory of Chas. Catlett, Staunton, Va. A long list of minerals likely to be found in fuller's earth is first given, and the opinion is expressed that fuller's earth results from the decomposition of hornblendes and augites rather than from feldspars.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 1684.

KINO.

Nelson, Burt E., discusses the nature and origin of kino, describes its powder and enumerates its constituents.—Merck's Report, N. Y., 1907, v. 16, p. 192.

Smith, H. G., (Abstr. Proc. Roy. Soc. N. S. Wales) discusses the eucalyptus kinos, their value for tinctures and the nongelatinization of the product of certain species and points out that there are three tannins at least in eucalyptus kinos and that all are determinable by reagents. The one which gives the violet coloration and precipitates with ferric chloride gelatinizes most readily. The one giving a green coloration with ferric chloride also gelatinizes, but not so rapidly as the others. The tannin which gives a blue coloration with ferric chloride does not gelatinize in tinctures.—Pharm. Centralbl., 1907, v. 104, p. 271.

Caldwell, Paul, says that 1 ounce of compound tincture of kino contains $1\frac{1}{2}$ grains of powdered opium and 52 per cent of alcohol.—Drug. Circ., N. Y., 1907, v. 51, p. 205.

KRAMERIA.

Beringer, George M., discusses and presents a formula for a fluid-glycerate of krameria, a liquid extract having the same drug strength as the U. S. P. fluid extracts.—*Am. J. Pharm. Phila.*, 1907, v. 79, pp. 410-412. (See also *Proc. New Jersey Pharm. Ass.*, 1907, p. 56.)

LEPTANDRA.

Henkel, Alice, describes and figures *Veronica virginica* L., also named *Leptandra virginica* L., Nutt., commonly called Culver's root, Culver's physic, blackroot, bowman's root, Beaumont root, Brinton root, tall speedwell, tall veronica, physic root, and whorlywort.—*Bul. Bur. Plant Ind., U. S., Dept. Agric.*, 1907, No. 107, pp. 59-60.

LINIMENTA.

Hommell, P. E., thinks the U. S. P. liniments, with the exception of liniment of camphor, are good embrocations. But there should be added to the list a perfectly satisfactory compound liniment, one combining the properties of a desirable counterirritant, anodyne, antiseptic, and alterative, to replace the many proprietary liniments.—*Proc. New Jersey Pharm. Ass.*, 1907, p. 63.

LINIMENTUM AMMONIÆ.

Ramage, A. J., (*Pharm. Journ.*, March 9, 1907, 287) commenting on the ammonia liniment, as directed by the *Ph. Brit.*, says that if the solution of ammonia is added to the oils previously mixed, or first shaken with the olive oil and then the almond oil, a liniment of a buttery consistence results, which can with difficulty be poured; but if the almond oil and solution of ammonia be first mixed and the olive oil afterwards added, a much more fluid liniment is obtained.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 664.

LINIMENTUM CALCIS.

Sutcliffe, P. T., states that Carron oil is soothing for burns, and that the second dressing is not so painful as after most other drugs; beyond that, however, he thinks it has nothing to recommend it.—*Brit. M. J.*, 1907, v. 2, p. 523.

LINIMENTUM CAMPHORÆ.

Hill, Geo. H., suggests making liniment of camphor by circulatory displacement, a method which he points out is also applicable to other pharmaceutical preparations.—*Drug. Circ., N. Y.*, 1907, v. 51, p. 263.

Harrison, E. F., (*Pharm. Journ.*, 1907, 79, 69) describes experiments to show that if lump camphor be used in place of flowers of camphor a much longer time is required for solution, and if heat be used to accelerate solution a serious loss of camphor may result. Thus, in one experiment small lumps were dissolved in three and one-half hours at 50° C., and the product contained 19.52 per cent of camphor. In a second experiment the beaker was kept in boiling water for three hours, and the product contained 18.85 per cent of camphor; whilst in a third case the camphor was dissolved in fifty-five minutes at 105° C., and the product contained only 16.16 per cent. By using freshly-sifted flowers of camphor the liniment can be prepared rapidly and without risk of loss.—*Analyst*, London, 1907, v. 32, p. 328.

Lythgoe, Hermann C., reports that of 19 samples of camphor examined, 14 were found to be adulterated. The percentage of camphor found in samples considered below strength varied from 0 to 13 per cent.—*Rep. Massachusetts Bd. Health*, 1907, 1908, p. 380.

Gilmour, J. P., reports 6 out of 86 samples not up to *Ph. Brit.* requirements; average deficiency 30 per cent. He considers it perhaps unfortunate that the *Ph. Brit.* gives no specific instructions as to the precise mode of preparation of the liniment, but adds that the most essential thing is to put in all the camphor.—*Year Book Pharm.*, Lond., 1907, pp. 446-455.

LINIMENTUM CHLOROFORMI.

The N. Y. State Board of Health, Eastern Branch, examined 246 samples of chloroform liniment; 42 deficient.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 324.

LINIMENTUM SAPONATO-CAMPHORATUM N. F.

Dunning, H. A. B., discusses the N. F. formula for solid opodeldoc and proposes a formula which he believes yields a much more satisfactory preparation.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 130.

Beringer, George M., points out that his preparation is not identical with the solid opodeldoc directed by the *Ph. Germ.*—*Proc. New Jersey Pharm. Ass.*, 1907, p. 74.

Kunze, F. R., (*Pharm. Ztg.*, lii, 1907, No. 102, 1059) recommends the following formula: 50 parts of stearin and 25 parts of pure sodium carbonate are saponified in a covered iron vessel; the soap is dissolved in 1,000 parts of alcohol by the aid of heat, 30 parts of camphor, 100 parts of alcohol added, and the warm solution filtered in a covered funnel into the stock-bottle. Then 5 parts of thyme, 10 parts of oil of rosemary, and 30 parts of spirit of ammonia are mixed with the filtrate and the mixture is rapidly cooled.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 92.

LINIMENTUM SAPONIS.

Thurston, Azor, points out that camphor and oil of rosemary are dextrogyrate and that the polariscope reading for soap liniment, in a 200 mm. tube at 25° C., should be about +9° V.—Merck's Report, N. Y., 1907, v. 16, p. 124.

The N. Y. State Board of Health, Eastern Branch, reports 91 samples examined, 3 deficient.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 330.

LINUM.

Ebert, Felix, points out that Chinese linseed is comparatively smaller than that grown in Europe or America, but otherwise identical with it. The use of the seed in China is also the same as with us.—Ztschr. d. Allg. österr. Apoth.-Ver., Wien, 1907, v. 45, p. 502.

The inspectors of pharmacies found ground linseed contaminated with oil cake meal.—Ann. de pharm. Louvain, 1907, v. 13, p. 277.

Rusting, Gullow, (Ann. pharm. Louvain, Jan., 1907) conducted numerous examinations which failed to discover starch grains in flaxseed, though the cellular membrane of certain tissues of the seed gives a blue color with iodine. Ranwez also had his students make several hundred examinations, which gave a negative result. The starch frequently found in linseed meal must arise from an admixture of foreign seeds.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 2929.

Schuroff, P., states that starch is found in quantity in the parenchymatous layer lying between the mucilaginous epidermis and the sclerenchyma. The grains are round oval shaped, quite uniform, the largest 0.04 millimeter in diameter; consequently some starch is always found in the meal.—Proc. Am. Pharm. Ass., 1907, v. 55, pp. 326-327.

Scoville, W. L., reports 12 barrels which ran from 24.45 per cent to 29.68 per cent oil. It has been rarely found to yield 30 per cent oil. It always has a pungent odor, indicating the presence of other substances.—*Ibid.*, v. 55, pp. 326-327.

Patch, E. L., reports 12 lots in 1906 found to contain from 35.5 per cent to 37 per cent oil. Eight barrels in 1907 about the same range.—*Ibid.*, v. 55, p. 327.

Gilmour, J. P., reports 5 out of 27 samples below Ph. Brit. standards; deficient in oil 33 per cent.—Year Book Pharm. Lond., 1907, pp. 446-455.

LIQUOR ALUMINI ACETATIS N. F.

Dulière, Walter, discusses the preparation of Burrow's solution and presents a formula which he asserts is to be included in the new French Codex. He points out that it is important to dissolve the aluminum sulphate in cold water to be sure of the absolute acid

content of the acetic acid and to follow the formula exactly.—*Ann. de pharm.*, Louvain, 1907, v. 13, pp. 99–102.

Sartorius, Albert, (*Apoth.-Ztg.*, xxii, 1907, No. 54, 568–570) after a comprehensive review of the numerous criticisms that have appeared from time to time concerning the preparation of solution of aluminum acetate, communicates experiments conducted by him, upon which he bases a rational process for the production of a stable preparation, which is described in the abstract.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 98.

Rothe, O., calls attention to the variable water content of aluminum sulphate and suggests that the specific gravity of the resulting solution would be a satisfactory indication of the content of salt, thus eliminating an important factor of uncertainty.—*Apoth. Ztg.*, Berl., 1907, v. 22, p. 671.

Frerichs, G., suggests the following method for determining the aluminum oxide content of solution of aluminum acetate: 10 gms. of the solution are diluted with 90 gms. of distilled water and heated. To the boiling solution about 5 gms. are added and the resulting precipitate separated by filtration is then calcined. The weight of the resulting material should be 0.23–0.26 gm.—*Apoth.-Ztg.*, Berl., 1907, v. 22, p. 212.

LIQUOR AMMONII ACETATIS.

Purcell, Francis J., states it as his belief that we have no better agent than the official liquor ammonii acetatis in hastening the elimination of alcohol, in the treatment of delirium tremens. The treatment of delirium tremens is discussed in this place by a number of contributors.—*N. York M. J.*, 1907, v. 86, p. 1028.

Prout, W. T., states that after the evacuation of the bowels by calomel in the treatment of blackwater fever, the best means of securing diaphoresis in the presence of an irritable stomach is a mixture of the solution of ammonium acetate and spirit of nitrous ether, to which may be added potassium acetate or nitrate.—*Brit. M. J.*, 1907, v. 2, p. 1326.

LIQUOR AMMONII CITRATIS FORTIOR N. F.

Beringer, George M., points out that the note under stronger solution of ammonium citrate N. F. is misleading and that a dilution 1 with 4 does not yield a product equivalent to the Ph. Brit. Solution of Ammonium Citrate.—*Am. J. Pharm. Phila.*, 1907, v. 79, p. 364.

LIQUOR ANTISEPTICUS.

Smith, Otis W., points out that liquor antisepticus is intended to compete with a number of nontoxic antiseptic solutions which have been very popular for years. While the official product is undoubtedly

as efficient as the commercial products, it differs from the best known in flavor, being somewhat stronger and harsher, and for this reason will probably not replace the manufactured article to any great degree.—*Proc. Missouri Pharm. Ass.*, 1907, p. 133.

Dawson, Edward S., is of the opinion that the U. S. P. antiseptic solution will not become popular with physicians until its flavor has been improved by the addition of small percentages of glycerin and of gaultheria.—*Proc. New York Pharm. Ass.*, 1907, p. 226.

Cliffe, W. L., points out that for the official antiseptic solutions it is necessary to use essential oils of high grade. He also suggests that the oils be dissolved in the alcohol and the resulting solutions allowed to stand for some time to blend. With solutions of this kind on hand the official antiseptic solution can readily be made extemporaneously.—*Am. J. Pharm. Phila.*, 1907, v. 79, p. 245.

Verhoeff and Ellis examined some of the widely advertised antiseptics for their bactericidal value and state that none of those mentioned in their list exceed the official liquor antisepticus in bactericidal power.—*J. Am. M. Ass.*, 1907, v. 48, pp. 2175-2176.

LIQUOR ANTISEPTICUS ALKALINUS N. F.

Benfield suggests that a much more uniform and brighter color can be obtained by macerating powdered cudbear with the aqueous alkaline solution; using 2 gm. of the powder to the liter of the finished product.—*Bull. Am. Pharm. Ass.*, Chicago, 1907, v. 2, p. 121.

Ferrel, O. L., expresses the belief that the use of 4 cc. of eucalyptol and 15 cc. of tincture of cardamom compound would tend to change the composition of the alkaline antiseptic solution to such a degree that the sweet taste would disappear and the aromatic quality be markedly improved. He also thinks that magnesium carbonate is a more satisfactory clarifying agent for this preparation than talcum.—*Proc. Texas Pharm. Ass.*, 1907, p. 74.

Scoville, W. L., states that some have complained that Alkaline Antiseptic, N. F., is too sweet, and have cut down the glycerin to half that directed in the formula, to correct this trouble. It is not the glycerin, but the flavor that needs correcting. Keep the glycerin as it is in the formula, but use twice as much eucalyptol and add 15 cc. of compound tincture of cardamom, and the sweet effect will disappear while the aromatic quality will be improved. Magnesium carbonate is a better clarifying agent for this than purified talc.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 294.

LIQUOR CALCIS.

Raubenheimer, Otto, calls attention to the need for dispensing lime water that will comply with the requirements of the U. S. P. and describes his continuous and automatic apparatus for the preparation of lime water.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, pp. 179-183.

Gilmour, J. P., points out that most commercial samples of lime water give more than traces of chlorides, and asserts that it is significant that the U. S. P. omits any test for these. Although the presence of a fractional percentage of chlorides is not likely to be detrimental, he believes that the most satisfactory lime water is that prepared with calcium hydroxide, derived from marble.—*Pharm. J.*, Lond., 1907, v. 25, p. 110.

An answer to a correspondent calls attention to the need for care in connection with lime water and points out that calcium hydroxide will gradually change to calcium carbonate.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 727.

"Gnomon" points out that lime water which seems to cause untold trouble to many retailers is a solution which is so inexpensive and so easy to make that there does not appear to be the slightest necessity for anyone to keep it in stock for any prolonged period.—*Pharm. J.*, Lond., 1907, v. 24, p. 748.

The State Pharmaceutical Examining Board reports that of 300 samples examined 181 fell short of the standard of strength fixed by the U. S. P. Some of these samples were very inferior in character and two did not seem to be more than mere hydrant water.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 272.

Barnard, H. E., reports 57 samples of lime water examined; 38 or a total of 56.7 per cent were below standard.—*Rep. Indiana Bd. Health*, 1907, pp. 186-187.

Fischer, Richard, found that only 45 per cent of all of the samples of lime water examined complied with the requirements of the Pharmacopœia. A very large number contained little or no lime at all.—*Proc. Wisconsin Pharm. Ass.*, 1907, p. 34.

Ladd, E. F., reports finding a sample of lime water which contained but 0.08872 per cent of calcium hydrate, or about 50 per cent of the U. S. P. strength.—*Rep. North Dakota Agric. Exper. Sta.*, 1907, Part II, p. 144.

LIQUOR CRESOLIS COMPOSITUS.

Klenze, W. T., asserts that the faults most generally found with the compound solution of cresol are that it does not produce a clear mixture with water and that it varies too much in color. He finds that as ordinarily made it contains un-aponified linseed oil which, of course, would cause a turbid mixture with water. He also suggests

heating the mixture of oil and potash to complete saponification.—Bull. Am. Pharm. Ass., Chicago, 1907, v. 2, p. 379.

According to a Prussian ministerial ordinance (Oct. 19, 1907) the saponated cresol solution of the Ph. Germ. IV is to be replaced by the solution prepared according to the improved formula proposed for the new edition of the Ph. Germ. now in course of revision. While in the proposed formula the percentage of cresol is the same as in the present one, the cresol is defined as having the boiling point 190° – 204° , instead of as "cresol. crud.," and the quantity of actual soap is increased, this being effected by reducing the quantity of water for the saponification of 60 parts of linseed oil so as to make 100 parts of soap instead of 135 parts, and adding 100 parts of cresol instead of 135 parts (Pharm.-Ztg., lii, 1907, No. 90, 937).—Proc. Am. Pharm. Ass., 1908, v. 56, p. 100.

Eger, E., (Pharm.-Ztg., lii, 1907, No. 90, 937) discussing the changes in the proposed modification of the Ph. Germ. formula for liq. cresol. saponat., considers the new preparation to be fully the equal both to lysol and the present preparation in its disinfectant properties, owing to the specification of cresol having a definite composition.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 101.

Woolcock, W. J. Uglow, discusses the Ph. Germ. and the U. S. P. formulas for cresol soap solutions and presents a formula containing 6 per cent of added glycerin, which he considers to be an advantage.—Pharm. J. Lond., 1907, v. 25, p. 334.

McBryde, C. N., (Bureau of Animal Industry, U. S. Department of Agriculture, 1907, Bulletin No. 100) reports an examination of liquor cresolis compositus of the U. S. P., the germicidal efficiency of which, when made with cresol boiling between 187° and 189° C., he found to be nearly one and a half times greater than carbolic acid. He concludes that as a solution made with the least effective cresol has a higher disinfectant value than carbolic acid it is safe to conclude that a preparation derived from any cresol answering the U. S. P. requirements and boiling between 195° and 205° C. would surpass carbolic acid in efficiency as a disinfectant.—Pharm. J. Lond., 1907, v. 25, p. 339.

Quant, Ernest, reports on the germicidal value of cresol-soap solutions and finds that a 1 in 400 dilution of cresol-soap solution compares in germicidal power with a 1 in 100 of carbolic acid.—*Ibid.*, v. 25, p. 778.

Tennant, C. E., reports the successful use of compound cresol solution for a bromine burn after trying picric acid and discarding it because of intense pain. Later he employed the compound cresol solution with entire satisfaction in a great variety of burns.—J. Am. M. Ass., 1907, v. 49, p. 1692.

Matter, O., (Beitr. Chem. Physiol. (Hofmeister), 10, 251-252), reports a case of lysol poisoning. The urine was dark colored, just as after carbolic poisoning.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 3021.

Friedländer, Richard, discusses the toxicology of lysol, its frequent use in Germany as a poison, and points out that the most efficient treatment in such cases is the washing out of the stomach, the administration of oil or albumin, and the use of tonics when indicated.—Therap. Monatsh., Berl., 1907, v. 21, pp. 274-275.

An editorial note points out that in recent times over 100 cases of lysol poisoning have taken place each year in Berlin. The poisoning has awakened considerable interest, partly because the toxicology opens up the study of a whole group of substances which are chemically related to carbolic acid.—Therap. Gaz., Detroit, 1907, v. 31, p. 353.

LIQUOR FERRI ALBUMINATI N. F.

Beringer, George M., points out that excellent formulas for the solutions of organic salts of iron were long ago published in Dietrich's Manual, and that the liquor ferri albuminati is official in the Ph. Germ.—Am. J. Pharm., Phila., 1907, v. 79, p. 364.

Scoville, W. L., states that the preparation of solution of iron albuminate, N. F., requires careful work, particularly in neutralizing the mixture of egg albumin and solution of ferric oxychloride. The addition of the alkali must be made very cautiously, and an excess carefully avoided to obtain a precipitate that can later be redissolved. The same principles apply to the solution of iron peptonate.—Drug. Circ., N. Y., 1907, v. 51, p. 294.

Dunning, H. A. B., (Drugg. Circ., May, 1907, 374) referring to the observations recently made by Scoville concerning the proper manipulation in making solution of iron albuminate by the "N. F." formula, mentions his own experience with this preparation, which coincides with the observations of Scoville. He suggests some precautions which, if followed, he thinks will do away with the difficulty in making this preparation.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 670.

LIQUOR FERRI ET AMMONII ACETATIS.

Tyson, J. (Penn. Med. J., Athens, Nov.), states that Basham's mixture is used too carelessly, and that he uses much less than formerly. Iron in small doses, with very small doses of mercuric chloride, freely diluted, is recommended.—J. Am. M. Ass., 1907, v. 50, p. 155.

LIQUOR FERRI CHLORIDI.

Lyons, A. B., believes that for the solution of chloride of iron too large a range of specific gravity is allowed.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 64.

Bachman, Gustav, (com on adulterations) reports solution of ferric chloride ranging from 10.2 per cent to 9.6 per cent of metallic iron instead of 10 per cent as required by the U. S. P.—Proc. Minnesota Pharm. Ass., 1907, p. 41.

Troxell, H. L. (com. on adulterations), states that occasionally samples occur with undue amount of nitric acid or iron oxychloride. Proc. Maryland Pharm., Ass., 1907, p. 86.

Bachman, Gustav, (com on adulterations), reports tincture of ferric chloride ranging from 4.3 per cent to 3.8 per cent of metallic iron, instead of 4.58 per cent as required by the U. S. P.—Proc. Minnesota Pharm. Ass., 1907, p. 41.

Barnard, H. E., reports that of the 68 samples of tincture of iron analyzed, 35 were pure and 33 adulterated. This is equivalent to 48.5 per cent, a decided improvement over the results obtained last year.—Rep. Indiana Bd. Health, 1907, p. 196.

La Place, Ernest, calls attention to the value of tincture of ferric chloride in the constitutional treatment of erysipelas.—J. Am. M. Ass., 1907, v. 49, p. 236.

Solis-Cohen, S., states that the tincture of ferric chloride is the best remedy at our command for the treatment of anemia associated with rheumatism. He gives a formula for preparing a "mistura ferro-salicylata" whereby the precipitation of ferric salicylate is avoided.—*Ibid.*, v. 49, pp. 2049–2053.

LIQUOR FERRI OXYCHLORIDI N. F.

Scoville, W. L., states that too much exposure of the precipitate first formed will spoil the solution of ferric oxychloride, N. F. It is important that the ammonia water shall be of full strength (overstrength will do no harm) and that the full amount of diluting water be used. Then the iron solution must be added to the ammonia solution, and not vice versa. The washings of the magma should be as rapid as possible (usually two decantations per day, at morning and at night) and the water used should be as free as possible from dissolved air or gases. Finally squeeze all the water possible from the precipitate and thoroughly mix the hydrochloric acid with it. Too much or too strong an acid will make a lighter colored preparation, not as useful for the particular purposes of this solution.—Drug. Circ., N. Y., 1907, v. 51, p. 294.

Owen, R. Cecil, discusses the chemistry and physics of dialyzed iron and concludes that the whole question of colloidal solutions is still shrouded in mystery, in spite of the patient and painstaking labor of many brilliant investigators.—Pharm. J. Lond., 1907, v. 25, pp. 432–433. (See also *ibid.*, v. 25, pp. 435–436.)

LIQUOR FERRI PEPTONATI CUM MANGANO N. F.

Beringer, George M., thinks Dietrich's formulas for solution of iron manganese peptonate preferable for this and similar preparations.—Proc. New Jersey Pharm. Ass., 1907, p. 74.

Wilbert, M. I., points out that the N. F. formula for solution of peptonate of iron with manganese is impractical and regrets that the committee did not include the widely used formula by Dietrich or the very simple formula proposed by Dunning (Proc. A. Ph., A., 1905, p. 397).—Am. J. Pharm. Phila., 1907, v. 79, p. 211.

Dunning, H. A. B., believes the N. F. formula for solution of peptonate of iron with manganese is a very poor one and yields an objectionable preparation.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 131.

He presents a formula and directions for making solution of iron and manganese peptonate, using fresh egg albumin, iron chloride, and manganese citrate.—Bull. Pharm., 1907, v. 21, p. 121. (See also p. 211 for corrections.)

Harrison recommends that a definite percentage of iron and manganese citrate be required in the preparation. He also asserts that manganese citrate is not readily obtained and when obtained varies in composition.—Bull. Am. Pharm. Ass., Chicago, 1907, v. 2, p. 380.

Hemm, Francis, discusses soluble manganese citrate and points out that many samples do not dissolve while others have a tendency to precipitate, and that unless we can be assured of getting a perfectly soluble and permanently soluble manganese citrate it would be advisable to employ in this formula the peptonized manganese in preference, as this is quite soluble and easily obtainable.—Proc. Missouri Pharm. Ass., 1907, pp. 104–105.

LIQUOR FERRI SUBSULPHATIS.

Bachman, Gustav, (com. on adulterations) reports solution of subsulphate of iron ranging from 12.57 to 11.2 per cent of metallic iron, instead of 13.57 per cent as required by the U. S. P.—Proc. Minnesota Pharm. Ass., 1907, p. 41.

LIQUOR FERRI TERSULPHATIS.

Lyons, A. B., points out that for a solution of definite strength, solution of tersulphate of iron is permitted to have too large range of specific gravity.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 64.

Bachman, Gustav, (com. on adulterations) reports solution of tersulphate of iron ranging from 9.8 per cent to 8.56 per cent of metallic iron, instead of 10 per cent as required by the U. S. P.—Proc. Minnesota Pharm. Ass., 1907, p. 41.

LIQUOR FORMALDEHYDI.

de Waal, J. W., (Pharm. Weekbl., 1907, No. 40) concludes from his experiments that solution of formaldehyde at ordinary room temperature and protected from light and atmospheric air is not readily oxidized to formic acid.—*Jahresb. d. Pharm. Göttingen*, 1907, v. 42, p. 191.

Smith, Otis W., points out that while commercial solution of formaldehyde is labeled 40 per cent one can seldom obtain it of this percentage of concentration except in cool weather. This solution readily parts with a portion of the active body when the temperature rises or through agitation.—*Proc. Missouri Pharm. Ass.*, 1907, p. 133.

Reychler, A., contributes a study on the chemical properties of formaldehyde.—*Bull. de la Soc. Chim. de France, Paris*, 1907, v. 1. 4th series, pp. 1189–1195.

Doby, G., presents some observations on the valuation of commercial formaldehyde solution.—*Ztschr. f. ang. Chem., Berl.*, 1907, v. 20, pp. 353–356.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 22) examined 9 samples of commercial formaldehyde solution, assayed by oxidation, which gave from 1.083 to 1.088 specific gravity and from 35.4 per cent to 37 per cent formaldehyde by weight.

Bachman, Gustav, (com. on adulterations) reports solution of formaldehyde ranging from 36.6 per cent to 31.8 per cent, instead of 37 per cent as required by the U. S. P.—*Proc. Minnesota Pharm. Ass.*, 1907, p. 41.

Feder, E., describes mercuric chloride solution which he recommends as a reagent for aldehydes, particularly formaldehyde.—*Arch. d. Pharm.*, 1907, v. 245, pp. 25–28.

Ditz, Hugo, discusses the reactions of formaldehyde that take place in the presence of concentrated sulphuric acid, particularly its behavior with naphthalin, phenanthren, anthracen, reten, chrysen, and carbazol.—*Chem. Ztg. Cöthen*, 1907, v. 31, pp. 445–446, 486–487.

Gabutti, Emilio, (Boll. Chim. Farm., 1907, 349–351) outlines a new reaction for the detection of formaldehyde which depends on the change of color produced in a sulphuric acid solution of carbazol.—*Pharm. J. Lond.*, 1907, v. 25, p. 185.

Richardson, F. W., discusses the determination of formaldehyde in milk and gives as his opinion that the best methods hitherto devised is that by Hehner (“Analyst,” 1896, 94 et seq.).—*J. Soc. Chem. Ind. Lond.*, 1907, v. 26, pp. 3–4.

Fenton, H., (Proc. Chem. Soc., 23, 1907, 83–84) regards the following three methods for the detection of formaldehyde to be the most pronounced: 1. With phenylhydrazine chlorhydrate, sodium nitro-

prusside, and sodium hydroxide solution, a transient blue color. 2. With alcoholic solution of gallic acid and concentrated sulphuric acid, development of a blue zone. 3. With resorcin solution and concentrated sulphuric acid, development of a red or red-violet zone.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 353.

Auerback and Barschall present a study on formaldehyde in which they discuss the solid polymers of this compound, their production and properties.—*Arb. a. d. k. Gsndhtsamte, Berl.*, 1907, v. 27, pp. 183–230.

Breslauer and Pietet (*Ber. d. d. chem. Ges.*, 1907, p. 3784) report on some condensation products of formaldehyde.—*Apoth. Ztg., Berl.*, 1907, v. 22, p. 997.

Robin, Lucien, makes some observations on the estimation of formic aldehyde in solution, and its polymers.—*J. de pharm. et de chim. Par.*, 1907, v. 26, pp. 400–402.

Fleig, M. G., presents a comprehensive study of the physiological properties of various formic compounds, including formic acid, formiates, and formic aldehyde.—*Arch. internat. de Pharmacod. et de Thérap.*, 1907, v. 17, pp. 147–230.

Anderson, John F., reports a study of the antiseptic and germicidal properties of solutions of formaldehyde and their actions upon toxins, and points out that formaldehyde not alone destroys bacteria, but their soluble products as well.—*Bull. Hyg. Lab. U. S. P. H. & M.-H. S.*, July, 1907, No. 39, p. 48.

An abstract from the *Practitioner* outlines a method of formaldehyde disinfection by means of potassium permanganate.—*Pharm. J. Lond.*, 1907, v. 25, p. 607.

Duerr and Raubitschek (*Centr. Bakt. Parasitenk.*, 45, 77–81) conclude that with certain modifications of their own, the permanganate method of Evans and Harris is equal to the best practical methods of disinfection.—*Chem. Abstr. Am. Chem. Soc.*, 1908, v. 2, p. 283.

Houghton and Clark describe a method of formic aldehyde disinfection by means of potassium permanganate.—*Therap. Gaz. Detroit*, 1907, v. 31, pp. 459–461.

The contributor of an unsigned article in the "Miscellany" column states that the use of solid formaldehyde generators led to experiments to determine their efficiency as disinfectants. The results are reported in the *Monthly Bulletin* of the California State Board of Health for July, 1907. It appears to be efficient for surface disinfection when two ounces are used for 1,000 cubic feet, but not dependable for penetration. The fire risk is not to be disregarded. The report states that the permanganate method is preferable.—*J. Am. M. Ass.*, 1907, v. 49, p. 1205.

Rosenau, M. J., calls attention to the care with which the work of McClintic was performed in the investigation of formaldehyde

disinfection. He reasserts that the experiments demonstrate that considerable amounts of dry formaldehyde gas are insufficient to kill bacteria unless the proper conditions of temperature and moisture are present. The gas can not be depended on when the temperature is below 60° F. and the relative humidity of the atmosphere below 65 per cent to kill nonspore-bearing organisms.—N. York M. J., 1907, v. 85, p. 25.

Huber and Bickel (Münch. Med. Wochenschr., 1907, p. 1800) recommend the use of freshly calcined lime, formaldehyde solution, and boiling water for disinfection. They claim that but a small fraction of the formaldehyde is lost by combining with the lime, and that the technique affords a simple, cheap, and harmless substitute for the more efficient spray technique when the latter is not available or is otherwise objectionable.—Am. J. Pharm. Phila., 1907, v. 79, p. 577.

Schnürer, J., (Ztschr. Infektionskrank. u. Hyg. Haustiere, 2, 1906, No. 1, pp. 43-57) states that it is often possible to get a better penetration with fluid than with gaseous formalin, especially in stables in which there are cracks in the floor and other parts. He tested the value of formalin in an aqueous 1 per cent solution. The disinfectant results were entirely satisfactory.—Exp. Sta. Rec., 1906-7, v. 18, p. 987.

Kolle, W., (Deutsche med. Wchnschr., v. 33, No. 39) states that disinfection with formaldehyde spray is cumbersome and exposes to danger from fire (sic.). He describes a method of generating formaldehyde gas and steam.—J. Am. M. Ass., 1907, v. 49, p. 1564.

La Wall, Chas. H., points out the possible danger of fire from formaldehyde disinfection, using potassium permanganate to liberate the formic aldehyde.—Drug. Circ., N. Y., 1907, v. 51, p. 469.

Albert, Henry, discusses disinfection and disinfectants. He states that the room temperature must be above 68° F. when formaldehyde is used as disinfectant, as the gas is converted into a solid at that temperature.—J. Am. M. Ass., 1907, v. 48, pp. 402-405.

Wilcox, E. V. (N. York M. J., N. Y., Mch. 23), reports that ammonia sprinkled over the rugs of a room previously disinfected with formaldehyde and ventilated serves to remove the fumes of the formaldehyde completely.—J. Am. M. Ass., 1907, v. 48, p. 1214.

Additional references on the uses of formaldehyde solution will be found in the Index Medicus and the J. Am. M. Ass.

LIQUOR MAGNESII CITRATIS.

Raubenheimer, Otto, outlines a method of making solution of magnesium citrate and points out some precautions to be observed in making this preparation.—Proc. New York Pharm. Ass., 1907, pp. 243-246.

McClure, C. M., has investigated the relation between impurities in magnesium carbonate and the difficulty in filtering and keeping stock solution of magnesium citrate. He concludes that silica is a disturbing factor and is present in many samples of commercial magnesium carbonate.—*Am. J. Pharm., Phila.*, 1907, v. 79, p. 365.

The N. Y. State Board of Health, Eastern Branch, reports 176 samples examined, 34 deficient.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 327.

LIQUOR PHOSPHATUM ACIDUS, N. F.

Vanderkleed and Bernegau discuss the solution of acid phosphates, N. F., report on the examination of commercial samples of this preparation, and point out that even with the use of bone ash of the highest obtainable quality, a large excess over and above that specified in the N. F. formula must be used in order to obtain a preparation that does not contain an objectionable amount of free sulphuric acid.—*Proc. Pennsylvania Pharm. Ass.*, 1907, pp. 107-110.

Schulze, Louis, finds it difficult to secure bone ash for making acid solution of phosphates, N. F., and asserts that jobbers invariably sent animal charcoal when bone ash was ordered.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 179.

Vanderkleed, Charles E., reports that commercial solutions of acid phosphate were found so adulterated as to cause customers at soda fountains to be made sick. A test is included.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 82.

LIQUOR PLUMBI SUBACETATIS.

Bachman, Gustav, (com. on adulterations) reports solution of lead subacetate ranging from 19.5 to 18.26 per cent. He says that these samples had been standing for a long time, which perhaps accounts for the low percentage of lead subacetate.—*Proc. Minnesota Pharm. Ass.*, 1907, p. 41.

Caldwell, Paul, says that 1 ounce of lotion of lead and opium, N. F., contains $1\frac{1}{2}$ grains of powdered opium.—*Drug. Circ., N. Y.*, 1907, v. 51, p. 205.

LIQUOR POTASSII ARSENITIS.

Greenish, Henry G., points out that the international agreement requires 1 per cent of arsenious oxide. All the pharmacopœias agree.—*Pharm. J., Lond.*, 1907, v. 24, p. 832.

Cook, E. Fullerton, reports some observations on the reasons for the great variety of colors obtained in the making of solution of potassium arsenite, and calls attention to the need for adhering strictly to the directions of the Pharmacopœia.—*Proc. Pennsylvania Pharm. Ass.*, 1907, pp. 231-233.

Astruc and Cambe present a modified formula for the preparation of Fowler's solution, where the latter is prescribed in mixtures with certain tinctures which it precipitates, such as those of nux vomica, calumba, cinchona, etc.—*Répert. de pharm. Par.*, 1907, v. 19, p. 109.

Stoepel, Paul, recommends that the addition of an aromatic to solution of potassium arsenite be discontinued in the Ph. Germ., and calls attention to the fact that many of the foreign pharmacopœias have adopted this simplified solution.—*Apoth. Ztg.*, Berl., 1907, v. 22, p. 1063 (for discussion see *ibid.*, 1119, 1129).

Schindelmeiser, J., (*Apoth. Ztg.*, 21, 902) reports solutions of potassium arsenite of varying strength made with potassium carbonate and bicarbonate which kept practically unchanged for six and eight months respectively. Solutions of the same strength made with sodium carbonate and bicarbonate decomposed very rapidly.—*Chem. Abstr. Am. Chem. Soc.*, 1907, v. 1, p. 219.

Bachman, Gustav, (com. on adulterations) reports solution of potassium arsenite ranging from 0.82 per cent to 0.65 per cent instead of 1 per cent as required by the U. S. P.—*Proc. Minnesota Pharm. Ass.*, 1907, p. 41.

Bernegau, L. Henry, calls attention to the necessity of using the right formula in assaying dry potassium arsenite. The U. S. P. (p. 590) gives the formula for potassium arsenite as KAsO_2 , which is correct if we make a solution of the salt by gently heating As_2O_3 with an excess of potassium bicarbonate in the presence of water, as in the case of the official liq. potass. arsen., but it is not correct for the dry salt, which has the formula $\text{KAsO}_2 + \text{HAsO}_2 + \text{H}_2\text{O}$.—*Am. J. Pharm.*, Phila., 1907, v. 79, p. 555.

Tyson, James, states that there can be no doubt of the value of arsenic in the treatment of diabetes, though it is not so useful as opium, and it is useful mainly in mild cases. He prefers the Fowler's solution, in small doses, long continued without interruption.—*J. Am. M. Ass.*, 1907, v. 49, p. 1583.

Vanderhoof, Douglas, states that the anemia following malaria is best treated by some form of arsenic, Fowler's solution being preferred by himself.—*Ibid.*, v. 48, p. 1337.

LIQUOR POTASSII HYDROXIDI.

The Vienna correspondent calls attention to the frequency of poisoning, particularly of children, by solution of potassa, and states that the accident is usually due to the custom of permitting children to drink from bottles, and of keeping this poison in old beer bottles.—*Lancet*, Lond., 1907, v. 173, p. 868.

LIQUOR SODÆ CHLORINATÆ.

Kunze, Klut, and Radant discuss the breaking of stock bottles containing solution of chlorinated soda and suggest that it is probably due to the decomposing influences of metallic oxides on solutions of chlorinated soda.—*Pharm. Ztg. Berl.*, 1907, v. 52, p. 972.

Sauer, Max, reports that in his experience amber glass stoppered bottles were unsuitable as containers for solution of chlorinated soda. Green glass bottles appear to be more satisfactory.—*Ibid.*, v. 52, p. 954.

Gilmour, J. P., found but two samples out of ten examined that complied with the Ph. Brit. requirement for solution of chlorinated soda.—*Pharm. J. Lond.*, 1907, v. 25, p. 109.

Basu, Anakul Chandra, (*Indian Med. Gaz.*, Calcutta, April), states that the solution of chlorinated soda is an excellent dressing for all forms of unhealthy and sloughing ulcers. The solution is used in a strength of 1 to 20.—*J. Am. M. Ass.*, 1907, v. 48, p. 1990.

LIQUOR SODII PHOSPHATIS.

Klenze, W. T., points out that the principal trouble with compound solution of sodium phosphate is the inability to get the ingredients all into solution and to prevent subsequent precipitation. The suggestion is made to put all of the ingredients into a bottle in a fairly warm place over night.—*Bull. Am. Pharm. Ass.*, Chicago, 1907, v. 2, p. 380.

LITHII CITRAS.

Blome, Walter H., (com. on adulterations) reports on samples of lithium citrate containing iron, aluminum, and alkalies in excess.—*Proc. Michigan Pharm. Ass.*, 1907, p. 69.

LITHII SALICYLAS.

Caspari, Chas. E., (com. on adulterations) examined 5 samples, 4 satisfactory: 1 contained metallic impurities.—*Proc. Missouri Pharm. Ass.*, 1907, p. 144.

LOBELIA.

Holm, Theo., describes and figures *Lobelia inflata*, L.; also presents descriptions and drawings on the microscopical structure of various portions of the plant.—*Merck's Report*, N. Y., 1907, v. 16, pp. 341-343.

Patch, E. L., examined four samples: 0.6, 0.4, 0.6, 0.58 per cent.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 327.

Chase, A. L., (*J. Therap. & Diet.*) concludes a paper on lobelia with the statement that there is not another medicine he carries in his

medicine case which he should feel more lost without than his bottle that contains the tincture of lobelia seed. He thinks it good "externally, internally, and eternally."—*Eclectic M. J.*, Cincin., 1907, v. 67, pp. 495-496.

LUPULINUM.

Nelson, Burt E., describes and figures the structural characteristics of lupulin and enumerates its several constituents.—*Merck's Report*, N. Y., 1907, v. 16, p. 163.

Graham, Willard, reports on three samples of lupulin which upon a microscopical examination, were found to contain varying amounts of mechanical impurities. All three samples were abnormal in ash content, while sample number three was abnormal in ether soluble matter.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 237.

Evans Sons Lescher and Webb (*Analytical Notes*, 1907, 1908, p. 32) found two consignments, tested for mineral matter to yield 15.6 and 9.8 per cent of ash.

Philipp Röder (*Jahresbericht*, Wien, 1907, p. 76) reports that of 8 samples of lupulin examined only 2 complied with the 10 per cent limitation for ash; the remaining 6 varying from 11.68 to 21.41 per cent.

van der Harst, J. C., found samples of lupulin containing 24 and 12.5 per cent of ash and 52 and 65 per cent of ether soluble matter, respectively.—*Pharm. Weekbl.*, 1907, v. 44, p. 1506.

LYCOPODIUM.

Wigglesworth, Grace, discusses, describes, and figures the development and the structural characteristics of the young sporophytes of *Lycopodium clavatum* and of *L. complanatum*.—*Ann. Bot. Lond.*, 1907, v. 21, pp. 212-234.

Nelson, Burt E., describes and figures the microscopical appearance of lycopodium and enumerates some of its distinguishing properties.—*Merck's Report*, N. Y., 1907, v. 16, p. 163.

Caesar and Loretz (*Geschäfts*, Ber., 1907, p. 95) outline a method for determining the ash content of lycopodium and point out that the Ph. Austr. permits only 3 per cent, while the other leading pharmacopœias permit the the presence of 5 per cent of ash.

Blome, Walter H., (com. on adulterations) reports that all samples of lycopodium examined were pure.—*Proc. Michigan Pharm. Ass.*, 1907, p. 69.

Mossler, Gustav, examined 4 samples of lycopodium all of which were found to contain foreign constituents—starch and pine pollen, when examined with the microscope. These contaminations were slight, however, and were evidently accidental, not adulterations. The ash content of the various several samples varied from 1.39 per

cent to 2.5 per cent.—*Ztschr. d. allg. österr. Apoth.-Ver.*, Wien, 1907, v. 45, p. 37.

Patch, E. L., examined 6 samples varying in ash content from 1.4 per cent to 3 per cent.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 327.

Seeley, C. W., thinks this drug has certain virtues and should be further investigated: he gives some of the indications for its therapeutic use.—*Eclectic M. J.*, Cincin., 1907, v. 67, p. 245.

Adams, E. O., recommends lycopodium as a remedy for so-called lithiasis, with the well-known associated symptoms of tympanitis, constipation, and peculiar appetite.—*Tr. Am. Inst. Homœop.*, 1907, 63d session, p. 369.

Kinyon, C. B., points out that lycopodium is useful in suppression of the menses with accompanying sadness and melancholy. With feeling of distension in the abdomen. Menses suddenly suppressed from fright. Pains from right to left. Severe bearing down as though the menses would recur. Always worse from 4 to 8.—*Ibid.*, 1907, 63d session, p. 388.

MAGMA MAGNESIÆ N. F.

Raubenheimer, Otto, discusses the making of magma magnesiæ, and presents a formula and method of procedure which he asserts can be readily followed and yields a satisfactory product.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, pp. 150–152.

Dunning, H. A. B., points out that magma magnesiæ is a rather tedious preparation to make, and somewhat too costly. He also believes that the N. F. requires an excess of magnesium sulphate.—*Ibid.*, v. 55, p. 131.

MAGNESII CARBONAS.

Mitchell, Edward, points out that jobbers formerly had difficulty in supplying U. S. P. magnesium carbonate, a trace of iron not being permissible. The trace remains, but the U. S. P. is more lenient now.—*Meyer Bros. Drug.*, St. Louis, 1907, v. 28, p. 307.

Gane, E. H., states that most of the medicinal product will not respond even to the modified U. S. P. tests, although testing up to the standard so far as per cent of oxide or carbonate is concerned. The difficulty seems to be in eliminating the last trace of soluble alkaline salts without largely increasing the cost of the official product. Some dealers are sending out these articles marked "for technical purposes only."—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 327.

Seoville, W. L., gives the following results of his examinations: 1 gm. 0.462 residue, 91.19 per cent of MgO. (U. S. P. standard 96 per cent.) 1 gm. gave 0.442 residue, 91.54 per cent MgO. 1 gm. 0.42 residue, 91 per cent MgO; 1 gm. 0.423 residue, 93 per cent MgO.—*Ibid.*, v. 55, p. 327.

Blome, Walter H., (com. on adulterations) reports examining samples of heavy magnesium carbonate which contained iron and calcium in excess; also reports on 2 samples of light magnesium carbonate: One contained 93 per cent and one 85.6 per cent of magnesium oxide.—Proc. Michigan Pharm. Ass., 1907, p. 69.

Caspari, Chas. E., (com. on adulterations) examined 7 samples, 1 satisfactory; 6 contained excess of iron.—Proc. Missouri Pharm. Ass., 1907, p. 146.

McClure, C. M., gives the results of the chemical analysis of magnesium carbonate. Five of the 6 samples examined contained small quantities of silica.—Am. J. Pharm., Phila., 1907, v. 79, p. 365.

Philipp Röder (Jahresbericht, Wien, 1907, p. 89) reports that 2 of 8 samples of magnesium carbonate were rejected because of their incomplete solubility in acetic acid and 3 additional samples were rejected because of water soluble material.

MAGNESII OXIDUM PONDEROSUM.

Scoville, W. L., reports magnesium oxide varying from 92.5 per cent to 93.89 per cent. U. S. P. standard 96 per cent.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 327.

Philipp Röder (Jahresbericht, Wien, 1907, p. 90) reports that of 5 samples of magnesium oxide examined only 2 complied with the pharmacopœial requirements. Three samples rejected contained an excess of carbon dioxide and iron and were not sufficiently soluble in dilute acid.

The inspectors of pharmacies assert that magnesium oxide frequently contains carbonate; they have also found small quantities of iron, aluminum, calcium, and silicon.—Ann. de pharm., Louvain, 1907, v. 13, p. 328.

Milard, C. K., points out that of 28 samples of magnesia purchased, 9 were calcined magnesia, 11 magnesium carbonate, and 8 effervescing citrate of magnesia.—Chem. & Drug., Lond., 1907, v. 71, p. 792.

MAGNESII SULPHAS.

Rosenthaler, L., discusses the titrimetric estimation of magnesium salts by means of arsenic acid.—Ztschr. f. anal. Chem., Wiesb., 1907, v. 46, pp. 714–716.

Goldammer, A., discusses the production and the properties of dried magnesium sulphate.—Pharm. Zentralh., 1907, v. 48, pp. 395–397.

Caspari, Chas. E., (com. on adulterations) examined 7 samples of magnesium sulphate: 5 satisfactory; 2 contained arsenic.—Proc. Missouri Pharm. Ass., 1907, p. 146.

Scoville, W. L., states that it is impossible to get it free from dirt: otherwise almost C. P.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 327.

Loew, O., (*Science* II, 26: 512, 180, 1907) discusses the effects of magnesium sulphate on plants.—*Bull. Torey Bot. Club, Chicago*, 1907, v. 34, p. 219.

Tucker, Henry, discusses the local use of magnesium sulphate solutions in inflammation, and reports a number of cases in which the application has given satisfactory results.—*Therap. Gaz., Detroit*, 1907, v. 31, pp. 238-240.

Waterhouse, E. R., discusses the uses of magnesium sulphate, both internally and externally.—*Eclectic M. J., Cincin.*, 1907, v. 67, pp. 163-168.

Bancroft, Frank W., discusses the relative efficiency of the various methods for administering saline purgatives, and asserts that the results obtained by MacCallum have been confirmed in every respect.—*Journ. Biol. Chem., N. Y.*, 1907, v. 3, pp. 191-211.

Matthews and Jackson discuss the action of magnesium sulphate upon the heart, and the antagonistic action of some other drugs. They report a number of experiments, and in the summary of their conclusions point out that the action of magnesium sulphate upon the heart is practically the same throughout the mammalian, avian, reptilian, and amphibian classes.—*Am. J. Physiol., Bost.*, v. 19, pp. 5-13.

Meltzer and Lucas state that when magnesium salts are injected subcutaneously they are eliminated by the kidneys, and when the kidneys of rabbits are removed the toxic action of the magnesium salts is increased by 50 per cent. and in nephrectomized animals these salts have a cumulative effect.—*Jour. Expr. M., N. Y.*, 1907, v. 9, pp. 298-311.

Meltzer, S. J., is reported to have said that while the salts of magnesium were taken by the mouth with impunity, if they were injected subcutaneously they induced delirium, anesthesia and relaxation, and paralysis of the respiration. These salts are eliminated by the urine, and when the animal is deprived of the kidneys the oral administration of the magnesium salts proves fatal.—*N. York M. J.*, 1907, v. 85, p. 1004.

Bardier, E., concludes, with Jolyet and Cahours, Binet, Wiki, that the salts of magnesia act on the peripheral motor nerve system after the manner of curare. The modifications of the ergographic curve give the measure of this intoxication which progresses to complete paralysis of the terminal motor plaques.—*J. de physiol. et de path. gén. Par.*, 1907, v. 9, pp. 611-619.

Greeley, Horace, reports the successful treatment of two cases of tetanus with magnesium sulphate by hypodermoclysis.—*J. Am. M. Ass.*, 1907, v. 49, p. 940.

Robinson, G. Canby, reports a case of tetanus successfully treated with intraspinal injections of magnesium sulphate. He states that

these did not cause purging, but, on the contrary, there was severe constipation.—*Ibid.*, v. 49 pp. 493-496.

Henry, J. Norman, is reported to have said that the use of magnesium sulphate by intraspinal injection in tetanus was followed by death in 3 of the 4 cases, but the convulsions were relieved and the patients were able to sleep in all cases. Alarming respiratory depression was seen in several instances, and evidences of a cumulative action were also observed.—*Ibid.*, v. 49, p. 2032.

MALTUM.

Ball, A. W., discusses the preparation of extract of malt and expresses the belief that the method outlined in the B. P. C. is not economical.—*Pharm. J. Lond.*, 1907, v. 25, pp. 731-732.

Alcock, F. H., discusses the determination of nitrogen in malt extract, and calls attention to some precautions that must be observed in determining nitrogen by means of the Kjeldahl process.—*Ibid.*, v. 24, p. 205.

Rodwell, Henry, discusses the use of extract of malt as a vehicle for various medicines and presents formulas for a number of combinations of potent medicaments with malt.—*Ibid.*, v. 24, p. 452.

Rodwell, Henry, suggests a number of formulas for malt extract preparations.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 426.

MANGANI DIOXIDUM PRÆCIPITATUM.

von Jaksch R., (München. med. Wchnschr., v. 54, No. 20) states that the breathing of dust laden with particles of manganese dioxide causes a peculiar nervous affection which von Jaksch describes.—*J. Am. M. Ass.*, 1907, v. 49, p. 447.

MANGANI SULPHAS.

Blome, Walter H., (com. on adulterations) reports a sample of manganese sulphate containing a trace of zinc.—*Proc. Michigan Pharm. Ass.*, 1907, p. 69.

MANNA.

Carles, N. P., discusses the use of manna as an excipient for pills.—*Schweiz. Wchnschr. f. Chem. u. Pharm.*, Zürich, 1907, v. 45, p. 553.

Carletti, O. (*Boll. Chim. Farm.*, 1907, 5), gives the following test for the purity of manna: A few cc. of strong sulphuric acid are mixed in a test tube with a few drops of a 1 per cent alcoholic solution of menthol, thymol, naphthol, or some other phenolic body. A little of a 2 per cent solution of the mannite to be tested is cautiously floated on the surface of this. If glucose, saccharose, or other carbo-

hydrate be present as impurity a rose to violet-color zone will be formed. The reaction depends on the fact that mannite does not form furfural when treated with strong sulphuric acid, whereas other carbo-hydrates, under similar conditions, give that aldehyde.—Pharm. J. Lond., 1907, v. 24, p. 457.

MARRUBIUM.

Farwell, O. A., reports that some bales of hoarhound recently imported from Europe were found to contain a considerable percentage of some hoary plant that looked very much like a species of *Salvia*; but as the plants were young and had not yet reached the flowering stage their identity could not be determined.—Merck's Report, N. Y., 1907, v. 16, p. 221.

Gordin, H. M., points out that Matusow's method for extracting marrubin from hoarhound really yields potassium nitrate, and records some observations on the chemistry of marrubin and marrubic acid.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 485.

MASSA FERRI CARBONATIS.

Franklin, J. H., outlines a new method of preparing saccharated carbonate of iron, and makes some suggestions as to the possibility of its use in pharmacy.—Pharm. J. Lond., 1907, v. 25, pp. 114–115.

Crewe, Philip H., discusses the determination of ferrous carbonate in saccharated carbonate of iron, and also the determination of the same salt in the pills of ferrous carbonate.—*Ibid.*, v. 25, pp. 115–117, 134.

MASSA HYDRARGYRI.

An editorial calls attention to the article of Beverly Robinson in the *Monthly Cyclopedia of Practical Medicine* for May, in which he states that the headaches following certain indiscretions of diet require blue mass followed by a saline draught.—N. York M. J., 1907, v. 85, pp. 1183–1184.

MATICO.

Kramer, Hans, describes and illustrates the structural characteristics of matico leaf, whole and powdered.—Ber. d. pharm. Gesellsch., Berl., 1907, v. 17, pp. 329–332.

MATRICARIA.

A review of the wholesale drug market points out that really desirable German chamomile flowers are extremely scarce. The drug as marketed from Hungary is much inferior to that produced in Germany.—Chem. Ztg., Cöthen, 1907, v. 40, p. 77.

Kinyon, C. B., suggests the use of chamomilla when the patient, before menstruation, is very irritable. Snaps at everybody and can hardly keep her temper.—Tr. Am. Inst., Homœop., 1907, 63rd. session, p. 384.

MEL DEPURATUM.

Utz discusses the utility of Ley's reaction for differentiating natural from artificial honey. He concludes that in mixtures of these two substances the presence of the adulterant can not be determined unless upward of 25 to 30 per cent is present.—Ztschr. f. ang. Chem., 1907, v. 20, pp. 993–996.

Thurston, Azor, discusses the use of the polariscope in connection with the determination of the purity of honey, and outlines methods for its application.—Merck's Report, N. Y., 1907, v. 16, pp. 123–124.

Lehmann and Stadlinger discuss some criticisms that have been offered on Haehnle's method of testing honey, and point out that the method appears to be open to serious objections.—Ztschr. f. Unters. d. Nahr. u. Genussm., 1907, v. 14, pp. 643–651.

Utz reviews the literature relating to the mineral content of honey, and presents a table giving the probable origin of the honey, and its per cent content of mineral matter.—Ztschr. f. ang. Chem., Berl., 1907, v. 20, pp. 2222–2225.

An editorial (*Annales de Chim. Analyt.*, 12, 258) discussing the method of examination prescribed in French official laboratories, suggests that to insure thorough bulking the honey should if possible be melted and stirred up before drawing the sample. Twenty-five gms. is then weighed off, dissolved in water, and made up to 250 cc. A portion of this solution is at once centrifugated and the deposit obtained examined under the microscope. No starch grains should be seen. Clean honey should contain no portion of the organs of bees; only pollen grains and particles of wax should be found.—Year-Book of Pharm., Lond., 1907, p. 78.

MENTHÆ PIPERITÆ.

An unsigned article discusses the cultivation of peppermint in Wisconsin.—Paint, Oil and Drug Rev., Chicago, 1907, v. 44, November 6, p. 18.

Sharp, Hunter, American consul at Kobe, presents some information on the growing of the peppermint plant and the extracting of the oil.—Pharm. J. Lond., 1907, v. 24, p. 204.

MENTHOL.

Babbitt, E. G., American vice-consul at Yokohama, presents information regarding the production of menthol in Japan and the quantity exported in 1904 and 1905 to various countries from the ports of Japan.—Pharm. J. Lond., 1907, v. 24, p. 204.

Consul Hunter Sharp, writing from Kobe, points out that the peppermint plant yields crops three times a year. The quantity of the product to make 1 kin ($1\frac{1}{2}$ pounds) is: First crop, 141 pounds; second crop, 83 to 108 pounds; and third crop, 83 to 91 pounds. The oil from the first crop will yield 45 per cent menthol; the second, $47\frac{1}{2}$ per cent; and the third, 50 per cent.—*Paint, Oil and Drug Rev.*, Chicago, 1907, v. 43, Feb. 6, p. 18.

A review of the menthol production gives the amount, value, and destination of the menthol produced in Japan during the years 1902–1906, inclusive.—*Chem. Ind.*, Berl., 1907, v. 30, p. 401.

Schimmel & Co. (*Semi-Ann. Rep.*, October, 1907, pp. 73–74) point out that in Japan menthol is not much used, the bulk being exported. A table is given showing the total export from 1902 to 1906 to the various countries.

They also note (*Ibid.*, October, 1907, p. 103) that the following requirements are given in the new Ph. Dan. for menthol: Colorless, brittle, needle-shaped crystals, not moist. Melting point, 43° ; boiling point, 212° ; only very slightly soluble in water; very readily soluble in alcohol, ether, chloroform, and fatty oils. When heated in an open dish on a water bath, menthol should evaporate completely. They add that the melting point of menthol lies between 43.5° and 44.5° C., and that it boils about 217° if the mercury thread of the thermometer is entirely placed in the steam.

Risser, Arthur S., states that he has found menthol very useful in the treatment of the vomiting of pregnancy. He enumerates a considerable number of drugs which are used for this purpose.—*N. York M. J.*, 1907, v. 86, pp. 1209–1216.

METHYLTHIONINÆ HYDROCHLORIDUM.

Francis, John M., points out that methylene blue is probably the most abused of all of the medicinal substances now in use. Competition of the pharmaceutical manufacturers has gradually reduced not only the price but also the quality of this substance. The manufacturers have kept pace with this demand for an article at a lesser price by supplying a product not so highly refined, and they have also cheapened it by diluting with dextrin and other substances. Five of the samples examined in the last twelve months contained approximately 30 per cent of this diluent, and it may be of interest to note that the tests given by the Pharmacopœia would not detect this adulterant. The most common contamination, however, is zinc, which is frequently present.—*Merck's Report*, N. Y., 1907, v. 16, p. 65.

Troxell, H. L., (com. on adulterations) asserts that the amount of ash given in the U. S. P. is rather low, for samples were found which contained as much as two or three times the allowed quantity

of ash, but this was not derived from zinc salts.—Proc. Maryland Pharm. Ass., 1907, p. 87.

Blome, Walter H., (com. on adulterations) reports that only 2 out of 17 samples were free from zinc; some contained iron in addition.—Proc. Michigan Pharm. Ass., 1907, p. 69.

Caspari, Chas. E., (com. on adulterations) examined 4 samples, 3 satisfactory; 1 contained zinc.—Proc. Missouri Pharm. Ass., 1907, p. 142.

Vanderkleed, Charles E., (com. on adulterations) reports several samples of methylene blue containing as much as 25 per cent of dextrin. He suggests that all lots be carefully tested for zinc, and points out that complete solubility in alcohol is a satisfactory test.—Proc. Pennsylvania Pharm. Ass., 1907, p. 85.

Frouin, Albert, discusses the antagonism between methylene blue and phloridzin.—Compt. rend Soc. de biol. Par., 1907, v. 62, p. 411.

Slack, Henry R., is reported to have said that he had used methyl thionine hydrochloride in the treatment of cancer with excellent results, several of the patients having remained cured for three years. It relieves pain, the general health of the patients is improved, and years are added to their lives.—J. Am. M. Ass., 1907, v. 48, p. 1626.

MEZEREUM.

Raue, C. Sigmund, employs mezereum in eruptions forming thick, brownish crusts, with oozing of pus; painful at night; swelling of the shafts of the long bones; syphilitic neuralgia.—Tr. Am. Inst. Homœop., 1907, 63rd session, p. 528.

MISTURÆ.

MISTURA ADSTRINGENS ET ESCHAROTICA N. F.

Schulze, Louis, believes that the N. F. direction to dispense the clear supernatant liquid for Villati's solution is a mistake and contrary to the wishes of veterinarians.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 179.

MISTURA CAMPHORÆ ACIDA N. F.

Caldwell, Paul, says that one ounce of Hooper's mixture contains one-half grain of powdered opium.—Drug. Circ., N. Y., 1907, v. 51, p. 205.

MISTURA CARMINATIVA N. F.

Caldwell, Paul, says that one ounce of Dalby's carminative contains $1\frac{1}{2}$ grains of powdered opium and 3 per cent of alcohol.—Drug. Circ., N. Y., 1907, v. 51, p. 204.

MISTURA CHLORALI ET POTASSII BROMIDI N. F.

Caldwell, Paul, says that one ounce of compound mixture of chloral and bromide contains 90 grains of hydrated chloral and 1 grain of extract of cannabis indica.—Drug. Circ., N. Y., 1907, v. 51, p. 205.

Benfield points out that the mixture of chloral and potassium bromide, N. F., is not very palatable. He proposes to modify the recipe by the addition of 60 cc. of tincture of orange peel U. S. P., 30 cc. fluid extract of glycyrrhiza, 60 cc. of glycerin, and 350 gms. sugar, these ingredients replacing the water in the present formula.—Bull. Am. Pharm. Ass., Chicago, 1907, v. 2, p. 121.

MISTURA CONTRA DIARRHŒAM N. F.

Caldwell, Paul, says that one ounce of Lafayette mixture contains $2\frac{4}{10}$ grains of ethyl nitrite and 22 per cent of alcohol. He also points out that 1 ounce of Chapman's mixture contains $4\frac{3}{4}$ grains of ethyl nitrite and 30 per cent of alcohol.—Drug. Circ., N. Y., 1907, v. 51, p. 204.

MISTURA CONTRA DIARRHŒAM, N. F.

Lowe, C. B., regrets the continuance of "Diarrhœa mixtures" in the N. F. on the ground that it is not advisable to give opium at first in diarrhœal complaints.—Am. J. Pharm., Phila., 1907, v. 79, p. 246.

Caldwell, Paul, says that one ounce of "Sun" diarrhœa mixture contains 10 grains of powdered opium and 81 per cent of alcohol.

One ounce of Squibb's diarrhœa mixture contains 10 grains of powdered opium, 38 minims of chloroform, and 87 per cent of alcohol.

One ounce of Loomis' diarrhœa mixture contains three-fifths grain of powdered opium and 60 per cent of alcohol.

One ounce of Thielmann's diarrhœa mixture contains $1\frac{1}{4}$ grains of powdered opium, 1 dram of ether, and 55 per cent of alcohol.

One ounce of Velpeau's diarrhœa mixture contains 15 grains of powdered opium and 33 per cent of alcohol.—Drug. Circ., N. Y., 1907, v. 51, p. 204.

MISTURA FERRI COMPOSITA.

Franklin, J. H., (Trans. Brit. Pharm. Conf. (Yearbook of Pharmacy) 1907, 438) suggests a modification of the Ph. Brit. formula for compound iron mixture, which becomes possible with the use of the saccharated carbonate of iron, also modified as proposed by him.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 103.

MISTURA OLEI PICIS N. F.

Caldwell, Paul, says that one ounce of mixture of oil of tar contains 5 minims of chloroform and 16 per cent of alcohol.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 204.

MISTURA OLEO-BALSAMICA N. F.

Beringer, George M., calls attention to and deprecates the changes that have been made in the formula for oleo-balsamic mixture N. F. and the continuance of the Ph. Germ. title as a synonym.—*Am. J. Pharm.*, Phila., 1907, v. 79, p. 364.

MISTURA PECTORALIS, STOKES N. F.

Caldwell, Paul, says that one ounce of Stokes' expectorant contains three-eighths grain of powdered opium and 14 per cent of alcohol.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 204.

MISTURA SASSAFRAS ET OPII N. F.

Caldwell, Paul, says that one ounce of Godfrey's cordial contains $1\frac{1}{2}$ grains of powdered opium and 7 per cent of alcohol.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 204.

MORPHINA.

Bucherer, Hans Th., presents a preliminary communication on the constitution of morphine and of thebaine.—*J. f. prakt. Chem.*, Leipz., 1907, v. 76, pp. 428-432.

Knorr and Hörlein discuss the chemistry of morphine and of the morphine alkaloids.—*Ber. d. deutsch. Chem. Gesellsch.*, 1907, v. 40, III, pp. 3341-3345.

Knorr, Ludwig, contributes a study on the knowledge of morphine and discusses allopseudocodeine, a new isomer of codeine.—*Ibid.*, v. 40, III, pp. 3844-3851.

Pschorr and Einbeck discuss the constitution of morphine and the constitution of oxymethyl-morphimethine.—*Ibid.*, v. 40, pp. 1980-1983.

Lees, Frederic Herbert, presents some additional researches on morphine, and calls attention to the relationship between the isomerides of morphine and codeine, isolated by the author and his collaborators, to each other and to the parent bases.—*Pharm. J. Lond.*, 1907, v. 25, p. 598.

Vongerichten and Hübner discuss the action of halogens on morphine derivatives and report a number of experiments.—*Ber. d. deutsch. Chem. Gesellsch.*, 1907, v. 40, III, pp. 2827-2831, 4146-4154.

Lees, Frederic Herbert, reports his researches on morphine, the halogen derivatives of morphine and codeine and the products of

their hydrolysis.—*J. Chem. Soc., Lond.*, 1907, v. 91, pp. 1408-1418. (See also *Chem. Abstr. Am. Chem. Soc.*, 1907, v. 1, p. 176.)

Thurston, Azor, asserts that morphine is levogyrate in alcoholic solution.—*Merck's Report*, N. Y., 1907, v. 16, p. 124.

Tickle, Thomas, discusses the separation of morphine from its aqueous solution by shaking with a nonmiscible liquid and reports a number of experiments with various solvents. He outlines a process which entails the use of cresol or mixtures containing cresol as a solvent for the alkaloid.—*Pharm. J. Lond.*, 1907, v. 24, pp. 162-164.

An editorial discusses a communication by Thomas Tickle on "The assay of morphine" and points out some of the original features contained therein.—*Ibid.*, v. 24, p. 160.

Matthes and Rammstedt report a number of experiments with picrolonic acid as a precipitant for morphine and its use for the quantitative determination of morphine.—*Ztschr. f. anal. Chem. Wiesb.*, 1907, v. 46, p. 573.

Warren and Weiss describe and figure morphine picrolonate and discuss the use of picrolonic acid as a precipitant for morphine. A solution 1 in 500 of morphine gives a positive precipitate with picrolonic acid, in fifteen minutes.—*Journ. Biol. Chem.*, N. Y., 1907, v. 3, p. 334.

Scholtz, M., reviews the method proposed by Georges and Gascard for the determination of minute quantities of morphine in solutions.—*Chem. Ztschr.*, 1907, v. 6, p. 155.

Guild, Edward J., asserts that the solubility of morphine in water has been greatly overstated by many observers; the cause of this he believes to be the presence of small traces of codeine. He found the solubility to vary from 1 in 5,110 to 1 in 5,310 at 20° C. Owing to the small residue of morphine to be weighed it is difficult to obtain an absolutely precise figure, but 1 in 5,200 at 20° C. is very near the actual solubility of hydrated morphine in water. The melting point he believes to be in the neighborhood of 235° C.—*Pharm. J. Lond.*, 1907, v. 24, p. 357.

Marchionneschi, M., (*Bollet. Chimico Farmaceut.*, p. 389) reviews the statements regarding the solubility of morphine in ether and reports his own experiments, which tend to confirm the statement by Beilstein that 100 parts of ether at 10° will dissolve 0.23 gm. of morphine.—*Apoth. Ztg.*, Berl., 1907, v. 22, p. 544.

Grübler, M., points out that many, if not all, of the glass vials used by apothecaries contain sufficient amount of free alkali to precipitate solutions of morphine, particularly if the solutions be concentrated and sterilized in the container. He particularly cautions against the dispensing of a solution of morphine that has been even slightly colored by sterilization.—*Pharm. Post. Wien*, 1907, v. 40, pp. 579-582.

Caldwell, Paul, says that one ounce of solution of morphine citrate contains 16 grains of morphine citrate and 12 per cent of alcohol.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 204.

Hausmann, W., reviews some of the literature relating to the habituation of the animal organism to the use of morphine and its derivatives.—*Ergeb. d. Physiol.*, 1907, v. 6, pp. 94-98.

Strangman, Mary S. P., reports a case of morphinomania treated successfully with atropine and strychnine.—*Merck's Arch.*, N. Y., 1907, v. 9, pp. 282-283.

Roch has studied the employment of atropine in acute intoxication by morphine. Atropine really combats morphine narcotism if therapeutic doses be adhered to and the antidotal quantities administered be not exceeded, which would naturally superpose a second intoxication upon the first.—*J. de pharm. et de chim. Par.*, 1907, v. 25, p. 550.

Douglas, Charles J., describes a plan for the treatment of morphinism whereby the patient is kept under the influence of various hypnotics during the period of morphine withdrawal and the pain of withdrawal is obviated. When the patient awakes all desire for morphine is said to be gone.—*Med. Rec.* N. Y., 1907, v. 72, pp. 435-437.

Vinci, Gaetano, discusses the action of morphine and some of its derivatives on the isolated mammalian heart, including dionin, peronin, and heroin, with protocols of experiments and a bibliography.—*Arch. internat. de pharmacod. et de therap. Par.*, 1907, v. 17, pp. 5-63.

An editorial discusses the literature relating to the action of morphine on the gastrointestinal canal briefly and calls attention to the recent work of Magnus, who found that the morphine caused the food to remain in the stomach for a longer period of time. The effect of small doses on the intestine was stimulating, while large doses slowed or stopped peristalsis.—*J. Am. M. Ass.*, 1907, v. 49, p. 777.

Knopf, S. A., disclaims that he ever advised the use of morphine to hasten the death by painless means of tuberculous patients, and states that, despite efforts to correct the erroneous impression given by the press, the ordeal has become almost unbearable.—*Ibid.*, v. 49, p. 616.

Additional references on the use of morphine will be found in the *Index Medicus* and the *J. Am. M. Ass.*

NONOFFICIAL COMPOUNDS.

Fauntleroy, C. M., reports a case of heroinism in which a man was taking up to 10 grains daily. Under treatment the amount was gradually reduced, strychnine being used at the same time.—*N. York M. J.*, 1907, v. 86, p. 930.

The Council on Pharmacy and Chemistry describes diacetylmorphine hydrochloride, which is sold as heroin. The heroin habit is sometimes treated by substituting morphine, and then treating the morphine habit in the usual way.—*J. Am. M. Ass.*, 1907, v. 48, p. 1185.

The editor of the Therapeutics column quotes Paul Duhem, in *Progrès Médicale*, to the effect that herein addiction has been observed with increasing frequency since its employment in the treatment of the morphine habit.—*Ibid.*, v. 48, p. 1211.

The Council on Pharmacy and Chemistry describes ethylmorphine hydrochloride, which was introduced under the name of dionin.—*Ibid.*, v. 48, p. 1109.

MORPHINÆ ACETAS.

Thurston, Azor, asserts that morphine acetate is laevogyrate in aqueous or alcoholic solutions.—*Merck's Report*, N. Y., 1907, v. 16, p. 124.

Blome, Walter H., (com. on adulterations) says that the solubility of morphine acetate varies, due largely to loss of acetic acid.—*Proc. Michigan Pharm. Ass.*, 1907, p. 69.

MORPHINÆ HYDROCHLORIDUM.

Frerichs, G., recommends the use of the following test for the identity of morphine: A particle of morphine hydrochloride in a mixture of 2 cc. of sulphuric acid and 3 to 4 drops of solution of formaldehyde produces a red-violet, changing to blue violet and later deep blue color.—*Apoth. Ztg.*, Berl., 1907, v. 22, p. 213.

Philipp Röder (Jahresbericht, Wien, 1907, p. 91) reports that of 4 samples of morphine hydrochloride 1 was rejected because of the brown color imparted to the resulting solution.

Pegurier, G., (*Répert. pharm.*, 3, 19, 442-3) found that of 3 samples of sterilized hypodermic morphine chloride tablets 2 gave, as is usually the case, more or less colored solutions, but the third gave an unusually clear solution. An examination showed the latter to contain free HCl, in the proportion of 3 mg. acid of pharmacopœial strength per 1 cc.—*Chem. Abstr. Am. Chem. Soc.*, 1908, v. 2, p. 691.

Prunier (*Rép. de Pharm.*, 1907, No. 10) recalls the fact that sterilized morphine solutions are rendered very stable by the addition of a very slight excess of hydrochloric acid. He found such solutions having acid reactions to retain their water-bright and colorless condition when preserved in sealed vials (ampuls) for three years, whereas neutral solutions preserved in the same way had acquired a more or less brown color.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 94.

Marie, A., discusses the sensibility of the cerebral cells to morphine hydrochloride and gives a tabulated summary of his results with subcutaneous and intracerebral injections. — *Compt. rend. Soc. de biol. Par.*, 1907, v. 63, pp. 381-382.

MORPHINÆ SULPHAS.

Thurston, Azor, asserts that morphine sulphate is lævogyrate in aqueous solution.—*Merck's Report*, N. Y., 1907, v. 16, p. 124.

Blome, Walter H., (com. on adulterations) says that the solubility of morphine sulphate varies.—*Proc. Michigan Pharm. Ass.*, 1907, p. 69.

Caldwell, Paul, points out that one ounce of Magendie's solution contains 16 grains of morphine sulphate.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 205.

MOSCHUS.

Schimmel & Co. (*Semi-Ann. Rept.*, April, 1907, p. 112) discuss the conditions of the musk market, together with the causes for increased prices. A table is given showing the export of musk from Shanghai in the year 1906 as compared with that of the years from 1899 to 1905, inclusive.

They call attention to a paper by Zwaardemaker, H. (*Koninklijke Akademie van Wetenschappen te Amsterdam*, 1907, 31, 139), who has obtained remarkable results in his olfactometric experiments with muskone. He studied the variations of different substances from each other in respect to their capacity for absorbing muskone odor from an atmosphere saturated with muskone vapors. The manner of conducting the experiments is explained.—*Schimmel & Co.*, *Semi-Ann. Rept.*, October, 1907, p. 107, 108.

Aitken (*The Oil and Col. Journ.*, 1907, p. 107) asserts that the odor of musk is due to a conversion of the solid substance into gases, and is not caused by the dissemination of solid particles of the material.—*Apoth. Ztg. Berl.*, 1907, v. 22, p. 119.

MYRISTICA.

A Penang pharmacist describes a visit to Hardouin's estate in Malay Peninsula, where he observed the cultivation of nutmegs.—*Chem. & Drug. Lond.*, 1907, v. 70, p. 139.

Hart, J. H., (*Bull. Bot. Dept.*, Trinidad, No. 54, April, p. 202) reports on the examination of 16-year-old nutmeg trees growing in the grounds of J. W. Crosbie, of Trinidad, which have been observed during the last four years to bear both male and female flowers. His examination proved the presence of both kinds of flowers on the same branch of this tree, and he therefore suggests that an attempt should be made to perpetuate this variety by grafting, since the planter has, as a rule, to wait many years after planting the seed to see whether it will produce a fruit-bearing or a male tree.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 765.

Winton, A. L., points out that so-called grinding nutmegs have been visited before shipment by some insect which, curiously enough,

devours almost completely the starchy part of the nut, leaving the resinous veins untouched. Such nuts may contain an even higher per cent of volatile oil than the sound product.—Proc. Ass. Off. Agric. Chem., 1907, 24th Ann. Conv., p. 81. (Bull. Bur. Chem. U. S. Dept. Agric., 1908, No. 116.)

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 32) examined two samples of powdered nutmegs containing 37.1 and 36.8 per cent of ether-soluble matter.

Kinyon, C. B., asserts that "*Nux moschata*" is frequently called for in hysteria, where *ignatia* is given, also menses irregular both as to time and quantity; discharge is dark and thick, whether in amenorrhœa or menorrhagia. Unconquerable drowsiness, yet can not sleep well. Great lassitude with a tendency to excessive laughter, especially when in the open air.—Tr. Am. Inst. Homœop., 1907, 63rd session, p. 389.

MYRRHA.

v. Friedrichs, Oscar, reviews some of the work done in connection with myrrh and reports a chemical examination of myrrh and its several constituents. He found the examined sample of myrrh to consist of volatile oil, resin, gum, and enzyme. The ethereal oil was present to the extent of 8.8 per cent.—Arch. der Pharm., 1907, v. 245, pp. 427-457.

Nelson, Burt E., describes powdered myrrh and enumerates its several constituents.—Merck's Report, N. Y., 1907, v. 16, p. 219.

Brown, J. F., calls attention to the difficulty of powdering myrrh belonging to the class of soft, oily gums described by Parker in 1879. To facilitate the powdering he suggests the addition of dimatos.—Pharm. J. Lond., 1907, v. 25, p. 373.

Lewinsohn, K., (Thesis, Berlin, 1906; Arch. der Pharm., 244, 1906, 412) discusses the composition of myrrh oil. He reports on the examination of 3 samples of commercial oils and emphasizes that the composition of myrrh oil differs according to the origin of the resin, the method of production, and the age.—Schimmel & Co., Semi-Ann. Rept., April, 1907, pp. 72-73.

Philipp Röder (Jahresbericht, Wien, 1907, p. 78) reports that 8 of the 10 samples examined exceeded the Ph. Austr. VIII 6 per cent limit for ash. The 2 samples accepted contained 3.17 and 5.37 per cent of ash, respectively, while the 8 samples rejected varied from 6.70 to 49.29 per cent.

Brown, Geo. S., reports examining 13 samples of tincture of myrrh. He found the contained extract to vary from 0.250 to 1.150 per cent. A sample of tincture made by the committee on deterioration and adulteration of drugs contained 1.450 per cent of extract. Only 3 samples at all approximated the extract content of the type sample.—Proc. Louisiana Pharm. Ass., 1907, p. 79.

NAPHTHALENUM.

Ditz, Hugo, discusses the reaction given by commercial naphthalin with formaldehyde and concentrated sulphuric acid—*Chem. Ztg.*, Cöthen, 1907, v. 31, p. 446.

Aso, K., (*Bull. College of Agriculture. Tokyo*, v. 7, pp. 413–417, 1907) reports observations on the action of naphthalin on plants and points out that this substance can retard the development of bacteria without acting as a bactericide. In quantities of from 0.005 to 0.01 per cent it may have a stimulating effect, but in quantities of 0.05 it was in all cases harmful.—*Bot. Centralbl.*, 1907, v. 105, p. 402.

NUX VOMICA.

Greenish, Henry G., points out that the international agreement requires the drug to contain 2.5 per cent of total alkaloid. All the pharmacopœias adopt this alkaloidal standard with the exception of the U. S., which standardizes to 1.25 per cent of strychnine. The committee of reference considered standardization in terms of strychnine to be essential, inasmuch as the toxicity of the drug is almost entirely due to this alkaloid, and the proportion of it in the total alkaloid varies within somewhat wide limits, viz., from 35 to 50 per cent.—*Pharm. J. Lond.*, 1907, v. 24, p. 832.

The Committee of Reference in Pharmacy points out that the standardization of nux vomica to 2.5 per cent of total alkaloid, as required by the international agreement, can easily be complied with, but the step is a very retrograde one. They hold that at least the preparations of this drug should be standardized in terms of strychnine.—*Chem. & Drug. Lond.*, 1907, v. 70, p. 587.

Hafner, B., discusses the assay of nux vomica and of several official preparations and points out that the Ph. Austr. VIII method gives generally low and altogether unreliable results.—*Ztschr. d. allg. österr. Apoth. Ver.*, Wien, 1907, v. 45, pp. 327–329.

Alcock, F. H., discusses the published assay methods for nux vomica and points out that the Ph. Brit. method for the assay of nux vomica is unworkable. He submits a simplified process the operations of which he believes to be straightforward and calculated to give concordant results.—*Pharm. J. Lond.*, 1907, v. 24, p. 20.

Webster and Pursel discuss the estimation of strychnine in nux vomica, review the several methods that have been used, and record some experiments made to determine the most desirable modification of the U. S. P. process. They recommend that the alkaloidal residue be dissolved in 15 cc. of 3 per cent sulphuric acid, to which solution equal volumes of nitric acid (S. G. 1.4) and distilled water are to be added and then 1 cc. of a 5 per cent solution of sodium nitrite, after which the solution is to be set aside for 38 minutes, then made alkali-

line and shaken out with chloroform.—*Am. J. Pharm., Phila.*, 1907, v. 79, pp. 1-7.

Naylor, W. A. H., reviews the U. S. P. assay method for fluid extract of *nux vomica* and compares it with several others that have been suggested.—*Am. Druggist, N. Y.*, 1907, v. 50, p. 357.

Gordin, H. M., calls attention to the fact that the U. S. P. assay for strychnine in *nux vomica* is not identical with the process published by him in 1902 (*Proc. Am. Pharm. Ass.*, 1902, p. 336), and that the modification was made despite his vigorous protest. He asserts that nitric acid having a specific gravity of 1.42 is readily obtainable and will give uniformly good results.—*Am. J. Pharm., Phila.*, 1907, v. 79, pp. 61-62.

An editorial comments on Gordin's protest against the modification of his method of alkaloidal assay adopted in the U. S. P. VIII for the estimation of strychnine in *nux vomica*.—*Am. Druggist, N. Y.*, 1907, v. 50, p. 128.

Naylor and Chappel discuss the U. S. P. process of assay of fluid extract of *nux vomica* and compare it with the methods proposed by Dewhirst, Dowzard, and Farr and Wright.—*Pharm. J. Lond.*, 1907, v. 24, pp. 394-395.

Fromme, G., points out that the gravimetric estimation of alkaloids in *nux vomica* gives uniformly higher results than does the titrimetric estimation and gives several references.—*Geschäfts Ber.*, v. Cæsar and Loretz in Halle, a. S., 1907, pp. 51-59.

Evans Sons Lescher and Webb (*Analytical Notes*, 1907, 1908, pp. 32-33) outline a method for the assay of strychnine which they find works very satisfactorily.

Cæsar and Loretz (*Geschäfts Ber.*, 1907, p. 110) outline their method of assay for *nux vomica* and point out that the *Ph. Germ.*, *Ph. Belg.*, *Ph. Ndl.*, and *Ph. Austr.* require 2.5 per cent of total alkaloid, and that the U. S. P. requires 1.25 per cent of strychnine.

Puckner, W. A., reviews the comments and criticisms made during 1906 on the official assay for *nux vomica*.—*Pharm. Rev., Milwaukee*, 1907, v. 25, pp. 326, 328.

Kwisda, A., reviews the progress that has been made during the year 1906 in the chemistry of the strychnine alkaloids.—*Pharm. Post, Wien*, 1907, v. 40, p. 181.

Matthes and Rammstedt discuss the use of picrolonic acid for the estimation of the alkaloid content of *nux vomica*, the extract, and the tincture.—*Arch. d. Pharm.*, 1907, v. 245, pp. 117-126.

Vanderkleed, Charles E., reports 11 assays of *nux vomica* ranging from 2.090 to 3 per cent of total alkaloid. He asserts that the average of total alkaloid corresponds to about 1.08 per cent strychnine and thinks the standard of 1.25 per cent strychnine difficult to maintain. Drug hard to exhaust.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 89.

Gane, E. H., examined 4 lots of drug, which varied from 1.2 per cent to 1.52 per cent of strychnine.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 328.

Patch, E. L., examined 4 samples ranging from 1.208 per cent to 1.38 per cent.—*Ibid.*, v. 55, p. 328.

Bachman, Gustav, (com. on adulterations) reports nux vomica assaying 1.33 per cent.—Proc. Minnesota Pharm. Ass., 1907, p. 41.

Caspari, Chas E., (com. on adulterations) examined 4 samples, 3 satisfactory, 1 weak.—Proc. Missouri Pharm. Ass., 1907, p. 147.

Sayre, L. E., reports on 17 assays of nux vomica which contained from 1.02 to 1.51 per cent of strychnine. Average, 1.30 per cent.—Bull. Kansas Bd. Health, 1907, p. 44.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 33) examined 6 lots of seeds, from which 0.9 to 1.35 per cent of strychnine was obtained. The alkaloid was extracted by alcohol and chloroform after a preliminary treatment of the powdered drug with sodium carbonate.

Philipp Röder (Jahresbericht, Wien, 1907, p. 116) reports on 9 samples of nux vomica which varied from 1.50 to 3.04 per cent of ash, and yielded from 9.06 to 12.19 per cent of extract to 70 per cent alcohol and from 2.50 to 3.13 per cent of total alkaloid.

Greenish, Henry G., points out that the international agreement has adopted standardization to 16 per cent of total alkaloid. The Ph. Austr., Ph. Belg., Ph. Ndl., and Ph. Hisp. have adopted this standard, but the U. S. P. has retained its strength of 5 per cent of strychnine for extract of nux vomica; therefore, complete uniformity has not been attained, although a step in this direction has been made.—Pharm. J., Lond., 1907, v. 24, p. 832.

Philipp Röder, Wien, reports examining 6 samples of extract of nux vomica which varied from 10.38 to 17.56 per cent of total alkaloid according to the method outlined by him the previous year.—Ztschr. d. allg. österr. Apoth.-Ver., Wien., 1907, v. 45, p. 254.

Wright, R., discusses the method for the determination of strychnine in liquid extract of nux vomica proposed by F. H. Alcock, and points out that it is easier to criticise other methods than to discover a flawless substitute. He points out that the two essential qualifications for an acceptable process are, (1) a pure alkaloid, and (2) concordant results.—Pharm. J., Lond., 1907, v. 24, p. 49.

Sayre, L. E., reports 2 assays of fluid extract of nux vomica containing 0.54 and 0.575 per cent of strychnine.—Bull. Kansas Bd. Health, 1907, p. 11.

Ladd, E. F., reports examining 13 samples of fluid extract of nux vomica which varied from 92.5 to 162 per cent of the U. S. P. strength.—Rep. North Dakota Exper. Sta., 1907, Part II, p. 147.

An unsigned article quotes Stevens, Caldwell, and three manufacturers as giving the percentage of alcohol in the official fluid extract of *nux vomica* as 66.5, 69, 60, 60, and 70 per cent respectively.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 319.

Greenish, Henry G., points out that the international agreement directs the tincture to be made 1 in 10 with 70 per cent alcohol, and to be standardized to 0.25 per cent of total alkaloid. The Ph. Austr., Ph. Belg., Ph. Ndl., and Ph. Hisp. adopt this standard, but the U. S. P. adheres to 0.1 per cent of strychnine.—*Pharm. J.*, Lond., 1907, v. 24, p. 832.

Philipp Röder Wien, criticises the Ph. Austr. VIII assay method for tincture of *nux vomica* and asserts that it frequently gives results that are much too low.—*Pharm. Post*, Wien, 1907, v. 40, p. 376.

Niece, Frederic E., describes a color reaction which he suggests for testing the identity of tincture of *nux vomica*.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 483.

Ladd, E. F., reports examining a number of samples of tincture of *nux vomica* which were found to vary from 70.5 to 496 per cent of U. S. P. strength. He finds that the U. S. P. assay process does not give reliable results, and points out several desirable changes.—*Rep. North Dakota Agric. Exper. Sta.*, 1907, Part II, pp. 145-146.

Baird, J. W., (com. on adulterations) reports 2 samples, adulterated.—*Proc. Massachusetts Pharm. Ass.*, 1907, p. 40.

Philipp Röder Wien, points out that it is difficult to produce tincture of *nux vomica* containing exactly 0.25 per cent total alkaloids when assayed by the Ph. Austr. VIII method, as the method itself gives variable results.—*Ztschr. d. allg. österr. Apoth.-Ver.*, Wien, 1907, v. 45, p. 285.

Still, G. F., (*Clin. J. Lond.*, Apr. 24) discusses the treatment of enuresis and fecal incontinence and states that *nux vomica* may prove useful in enuresis. He mentions briefly the use of a great variety of drugs.—*J. Am. M. Ass.*, 1907, v. 49, p. 91.

Dunham, John Dudley, states that tincture of *nux vomica* taken before each meal is often helpful in the treatment of gastric neuroses.—*N. York M. J.*, 1907, v. 85, p. 1214.

Adams, E. O., points out that *nux vomica* is indicated in cases of functional indigestion accompanied with its well-known irritability of temper.—*Tr. Am. Inst. Homœop.*, 1907, 63rd session, p. 368.

OLEATUM HYDRARGYRI.

Gilmour, J. P., reports 11 samples of oleate of mercury, all below Ph. Brit. standards; considerable quantity of chloride present, due to insufficient washing of the oleate. He asserts that the present process is clumsy, and the product variable in consistency and sta-

bility, and suggests reverting to the 1868 process, or adopting the U. S. P. modification.—Year Book of Pharmacy, Lond., 1907, pp. 446-455.

OLEORESINA CUBEBAE.

Smith, Otis W., thinks that oleoresin of cubeb might well have been included in the class made with acetone, as the drug yields but little to alcohol after it has been thoroughly extracted by acetone. Alcohol is open to the further objection that its boiling point is so high that a considerable loss of the volatile substance from the cubeb occurs when the solvent is evaporated.—Proc. Missouri Pharm. Ass., 1907, p. 134.

OLEUM.

OLEA INFUSA N. F.

Beringer, George M., condemns the N. F. general formula for infused oils and objects to the note as being misleading. He thinks the substitution of equal parts of lard oil and cotton-seed oil for olive oil cannot be too strongly condemned, as it is well known that such mixtures of oil rapidly undergo change and become rancid.—Proc. New Jersey Pharm. Ass., 1907, p. 74.

OLEA PINGUA.

The methods for the analysis of edible fats and oils as outlined by the Association of Official Agricultural Chemists provide for 17 determinations including specific gravity, index of refraction, melting points of fat, iodine absorption number, saponification number, free fatty acids, unsaponifiable residue and quantitative tests.—Bull. Bur. Chem. U. S. Dept. Agric., 1907, No. 107, pp. 129-147.

Bornemann, G., presents a comprehensive report on the chemistry of fats and fatty oils in the second half year of 1906.—Chem. Ztschr., 1907, v. 6, pp. 139-143. (See also *Ibid.*, pp. 277-280, for review of chemistry of fatty oils in the first half year of 1907.)

Suijver, J. F., discusses the official descriptions and the examination of fatty oils and mineral oils directed by the Ph. Ndl. IV.—Pharm. Weekbl., 1907, v. 44, pp. 341-343.

The Ph. Helv. IV outlines a method for determining the acid number, saponification number and iodine number of oils, waxes, and resins.

Sidersky, D., presents a table of the principal physico-chemical constants of fatty matters.—Ann. de chim. analyt., 1907, v. 12, pp. 59-62.

Mascarelli and Blasi (Gaz. chim. ital., 1907, p. 113) say that a comparative study of the several methods for the determination of the

iodine index gives first place to that of Hanus, by the action of bromide of iodine.—Répert. de pharm., Par., 1907, v. 19, p. 223.

Thompson and Dunlop (Analyst, 31, 281) prepared a number of pure oils and determined the iodine number by the Wijs method. The oils examined were olive, linseed, ravisson, jamba, rape, almond, and castor. They also prepared a table to show that the presence of free fatty acids in an oil tends to lower the index of refraction and the iodine number.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 70.

Louise and Sauvage (Compt. rend., 145, 1907, 183) suggest a new physical constant for fixed oils, which depends on the observation that when a small quantity of acetone is added to a fixed oil the mixture separates on standing into two layers from the formation of a "double mixture."—Proc. Am. Pharm. Ass., 1908, v. 56, p. 359.

Arragon, Ch., (Ztschr. f. Unters. d. Nahr. u. Genussm., 12, 449) has investigated the green coloration yielded by vegetable oils when shaken with Welman's reagent (10 G. phosphomolybdate of soda, 20 cc. nitric acid specific gravity, 1.153 and water 100 cc.), from which it appears that in addition to vegetable oils some animal oils afford a similar coloration.—*Ibid.*, v. 55, p. 903.

Fanto and Stritar discuss the theory of the saponification process and the reactions that are involved. They report their experiments at some length and conclude that they do not offer any contradiction to the hypothesis that the saponification of fats by alkalies is effected, practically direct.—Ann. d. Chem., Leipz., 1907, v. 351, pp. 332-343.

Marcusson, J., (Chem. Ber., v. 39, p. 3466-3474, 1906) presents a contribution on the theory of saponification and points out that despite the fact that fats are saponified in several stages no intermediary products appear to occur.—Physikal. Chem. Centralbl., 1907, v. 4, p. 47.

Lewkowitsch, J., (Chem. Ber., v. 39, pp. 4095-4097, 1906) also discusses the theory of saponification processes and controverts some of the theories proposed by Marcusson.—*Ibid.*, v. 4, p. 48.

An abstract (from Oil, Paint, and Colorman) calls attention to a fuller's earth found in Florida which is recommended for the bleaching of fats and oils. The method of preparing and using the substance is outlined.—Drug. Topics, New York, 1907, v. 22, p. 100.

OLEA VOLATILA.

Charabot and Laloue discuss the formation and distribution of essential oil in a living plant (*Artemisia absinthium* L.).—Compt. rend., Acad. d. sc. Par., 1907, v. 144, pp. 152-154.

The same authors also present a paper on the successive distributions of terpenic compounds among the several organs of the living

plant.—*Ibid.*, pp. 435–437. (See also Bull. de la Soc. de chim. de France, Par., 1907, v. 1, pp. 280–290.)

Schimmel & Co. (Semi-Ann. Rep., October, 1907, pp. 112–113) quote Etienne (Journ. de la Soc. nat. d'Horticulture de France, Feb., 1907) as asserting that the constituents scientifically detected in certain natural blossom oils, such as methyl ester of anthranilic acid, benzyl acetate, and geraniol, are not at all present in the natural products in which they had been discovered.

The comments by Schimmel & Co. on the volatile oils in the Ph. Belg. III are reprinted, and attention is called to the statement that, because of the corrections that were made possible by the preliminary publication of the monographs on essential oils, the Ph. Belg. III is singularly free from the glaring errors so common in some of the other official descriptions of essential oils.—Bull. Soc. roy. de pharm. Brux., 1907, v. 51, pp. 41–44.

Greenish, Henry G., points out that the tests for volatile oils in the Ph. Dan. VII are very briefly dealt with, being usually restricted to the solubility and limits of specific gravity.—Pharm. J. Lond., 1907, v. 25, p. 463.

While requirements for optical rotation of volatile oils are not included in the Ph. Helv. IV, a table containing the optical rotation of the more important oils is included in the appendix.

Brandel, I. W., reviews the literature of volatile oils for the period of 1905.—Pharm. Rev., Milwaukee, 1907, v. 25, pp. 58–64, 121–128, 147–154, 180–187, 296–298.

Rochussen, F., reviews the progress that has been made in the field of essential oils, particularly the chemistry of these compounds.—Chem. Ztg. Cöthen, 1907, v. 31, p. 223–225, 239–241.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, pp. 113–114) review Semmler's text-book on "Die ätherischen Öle, nach ihren Bestandteilen, unter Berücksichtigung der geschichtlichen Entwicklung," the final number of which appeared at the end of June, 1907. They call attention especially to 3 volumes devoted to methane derivatives, hydrated compounds, and benzene derivatives.

Beckmann (Arch. der Phar., 245, 1907, 211) publishes a detailed treatise on the cryoscopic method for determining the essential oils in spices, etc.—Schimmel & Co. Semi-Ann. Rep., October, 1907, pp. 114–116.

Ossendowsky, A. M., (J. Russ. Phys. Chem. Soc., 38, 1073–74) presents a table of the rotation and density of 15 oriental oils.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 1456.

Thurston, Azor, discusses the application of the polariscope to the detection of adulteration of volatile oils and presents a list of volatile

oils and their optical rotation.—Merek's Report, N. Y., 1907, v. 16, p. 124.

Vanderkleed, Charles E., believes that with few exceptions the tests for volatile oils laid down in the U. S. P. VIII, and its revision under pamphlet of very recent date, practically cover this subject in an intelligent and practical way. He points out that the main trouble with all these tests is that they consume quite a quantity of a rather expensive article and, of course, a good deal of time, so that, after all is said and done, the label of a first-class, honorable house is the best guaranty that ordinarily could be asked for.—Proc. Pennsylvania Pharm. Ass., 1907, p. 58.

Bernegau, Henry, discusses some of the characteristics of volatile oils and the standards required by the U. S. P.—Am. J. Pharm., Phila., 1907, v. 79, p. 554.

Troxell, H. L., (com. on adulterations) points out that as a whole, essential oils show up very fine, although from time to time slight discrepancies occur.—Proc. Maryland Pharm. Ass., 1907, p. 87.

Blair, Henry C., discusses the adulteration of volatile oils and presents a number of formulas formerly used by manufacturers of spurious oils.—Proc. Pennsylvania Pharm. Ass., 1907, pp. 66-69.

Vanderkleed, Charles E., quotes a correspondent who describes a number of adulterants for volatile oils, the method of their use and their possible detection.—*Ibid.*, 1907, p. 58.

Gane, E. H., quotes C. T. Bennett as asserting that artificial esters are prepared for the express purpose of sophisticating essential oils. Ethyl succinate for oil of lavender, glycerol acetate for oil of peppermint, ethyl citrate, an odorless product of high boiling point, for use in oil of bergamot, oil of lavender, etc.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 320.

Mossler, Gustav, reports a number of experiments and observations on the action of bromine on ethereal oils and the subsequent determination of the absorbed bromine.—Ztschr. d. allg. österr. Apoth.-Ver. Wien, 1907, v. 45, pp. 223-225, 235-236, 251-253, 267-269, 283-285, 299-301.

Harries and Himmelmann present a communication on the chemistry of citral and its behavior with ozone.—Ber. d. deut. chem. Gesellsch., 1907, v. 40, III, pp. 2823-2826.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, pp. 120-123) discuss and outline a new method worked out by Rother for the determination of aldehydes and ketones.

Boulez, Victor, presents a study of the esterification of tertiary terpene alcohols, particularly linalol and the determination of that alcohol in essential oils.—Bull. de la Soc. de chim. de France, Par., 1907, v. 1, pp. 117-120.

Simmons, W. H., points out the need of a really satisfactory method for the determination of linalol in essential oils and records some observations and experiments with linalol and linalol oils.—*Chem. & Drug. Lond.*, 1907, v. 70, p. 496.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, pp. 119–120) quote Parry and Bennett as having experimented with Boulez's method for the determination of linalol, from which they conclude that this method does not give reliable results.

They assert (*Ibid.*, April, 1907, p. 118) that the method for the determination of phenols indicated by Gildemeister, extraction with 5 per cent soda liquor for thyme oil, has given the best results.

They also discuss (*Ibid.*, October, 1907, p. 117) the reports by Tschugaeff (Berl. Berichte, 35, 1902, 3912), Hibbert and Sudborough (Proc. chem. Soc., 19, 1903, 285; Chem. Centralbl., 1904, I, 402) and Zerewitinoff, Th. (Berl. Berichte, 40, 1907, 2023), on the use of magnesium methyl iodide as a reagent in the hydroxyl group.

Semmler, F. W., presents a series of contributions on the constituents of ethereal oils.—Ber. d. deut. chem. Gesellsch., 1907, v. 40, III, pp. 2959–2968. (See also Semmler and Tollens, *Ibid.*, 1907, v. 40, III, pp. 3101–3106; Semmler, F. W., *Ibid.*, v. 40, III, pp. 3321–3324; Semmler and Hoffmann, *Ibid.*, v. 40, III, pp. 3521–3528; Semmler and Bartelt, *Ibid.*, v. 40, III, pp. 4465–4472; Semmler, F. W., *Ibid.*, v. 40, III, pp. 4591–4597; Semmler and Bartelt, *Ibid.*, v. 40, III, pp. 4844–4849; Semmler, F. W., *Ibid.*, v. 40, III, pp. 5017–5023.)

Wallach, O., presents a series of contributions to our knowledge of the terpenes and volatile oils.—Ann. d. Chem. Leipz., 1907, v. 353, pp. 284–334. (See also v. 357, pp. 49–78; v. 359, pp. 265, 286; v. 360, pp. 26–104; v. 363, pp. 1–19.)

Deusen and Lewinsohn present a contribution to our knowledge of the sesquiterpenes.—*Ibid.*, v. 359, pp. 245–264.

Wendt, Gustav, reviews some of the opinions regarding the constitution of the terpene series and presents a number of constitutional formulas for compounds of this series.—Pharm. Ztg., Berl., 1907, v. 52, pp. 331–332.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, pp. 111–112) assert that the formulas by Wendt are presented without any experimental foundation, entirely arbitrarily, and with sovereign disregard of all previous labor, upon a "pure" carbon atom; that is to say, a carbon atom combined in his opinion with four others.

Overman and Sayre present some observations on the antiseptic value of volatile oils.—Merck's Report, N. Y., 1907, v. 16, pp. 279–280.

Kobert, Karl, discusses the antiseptic value of terpene free and terpene containing ethereal oils. He concludes that as antiseptics the terpene free oils are quite as efficient as the terpene containing oils.

He presents tables giving the comparative value of the several oils.—Pharm. Post., Wien, 1907, v. 40, pp. 627-630. (See also Merck's Report, N. Y., 1907, v. 16, pp. 73-75.)

OLEUM ADIPIS.

Graham, Willard, reports on an examination of 3 samples of lard oil, 2 of which were abnormal in acid number, and asserts that a good lard oil should have an acid number of not over 5.—Proc. Pennsylvania Pharm. Ass., 1907, p. 237.

OLEUM AMYGDALÆ AMARÆ.

Cohn, Alfred I., thinks that the name for this product might well be changed to oleum amaræ amygdalæ, or better yet oleum amygdalæ volatilæ. The latter name would correspond with the name that has been adopted for the fixed oil of almonds and would have the advantage of being in keeping with scientific accuracy.—Proc. New York Pharm. Ass., 1907, p. 234.

Brandel, I. W., gives the pharmacopœial requirements as they appear in the U. S. P. VIII, and the Ph. Hosp. VII.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 63.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, p. 13) discuss the action of emulsin on amygdalin. They point out that after some time there occurs a state of equilibrium: the formation of hydrocyanic acid ceases, although the enzyme and also amygdalin are still present.

Lemoine, A., (Lab. Inland Rev. Dept., Canada, Bul., 136, p. 10) examined 65 samples of almond extract, 61 of which were entirely free from prussic acid, 3 contained measurable amounts, and 1 a trace only. Nine of the samples contained added dyes.—Exp. Sta. Rec., 1907-1908, v. 19, p. 968.

OLEUM AMYGDALÆ EXPRESSUM.

Francis, John M., points out that while thousands of gallons of a comparatively cheap sweet almond oil were obtainable 18 months ago this is no longer the case.—Proc. Pennsylvania Pharm. Ass., 1907, p. 64.

Gausby, R. A., reports that no adulteration was noted in the several samples examined, but that several lots from reliable pressers ran below the U. S. P. limit as to iodine value. He reports the following data from seven samples examined: Acid number from 0.53 to 2.81; saponification number from 188.4 to 190.2; iodine number from 91.1 to 94.8. Also reports the examination of one sample of peach-kernel oil which contained a considerable quantity of poppy oil.—*Ibid.*, 1907, p. 78.

Hankey, William T., asserts that oil of peach kernels and even oil of peach kernels mixed with oil of sesame and cotton seed oil is frequently sold for pure almond oil.—*Ibid.*, 1907, p. 72.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 5) have, very occasionally, noticed a slight pinkish tinge in pure almond oils. French oils have a specific gravity 0.924 and a refraction figure +25. Spanish oils have a specific gravity of 0.916 and a refraction figure +5.

Schimmel & Co. (Semi-Ann. Rep., October, 1907) describe an oil of sweet apricot kernels, from the island of Mallorca. They point out that this oil also differs from the genuine almond oil above all by the elaidine test, in which the (solid) layer of oil is not colorless, but, as in the case of peach-kernel oil, reddish.

A review of the Syrian market of apricot kernels in Schimmel's Report for April, 1907, 10-11, gives some idea of the extent of the substitution of apricot kernels for almonds in the production of the almond oil of commerce.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 904.

OLEUM ANISI.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, p. 101) point out that the U. S. P. corrections up to June 1, 1907, provide that oil of anise should have a specific gravity of 0.975 to 0.988 and optical rotation to -2 at 25° C.

Bernegau, Henry, points out that oil of anise is required to conform to an angle of rotation -2 in a 100 mm. tube at 25° C. (absence of oil of fennel) but that no indication is given under the description of the latter oil as to what optical rotation, if any, it should have.—Am. J. Pharm., Phila., 1907, v. 79, p. 555.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, p. 101) recommend determining the specific gravity of anise oil at 20° , as anise oil sometimes solidifies already spontaneously at 15° ; the above limits of value also apply to 15° .

Peltrisot, C. N., discusses star anise and its culture in Tonkin.—Bull. d. sc. pharmacol., Par., 1907, v. 14, pp. 277-282.

Hartwich, C., reports finding a considerable amount of poisonous star anise, reviews some of the literature relating to it, and describes with figures the structural characteristics of several varieties of illicium.—Schweiz. Wehnschr. f. Chem. u. Pharm. Zürich, 1907, v. 45, pp. 798, 809.

Benttner, E., reports finding a sample of star anise contaminated with 50 per cent of the poisonous sikimi fruit.—*Ibid.*, v. 45, pp. 277-282.

Schimmel & Co. (Semi-Ann. Rep., April, 1907, p. 96) point out that inferior oil of star anise is rarely shipped from China, and that most of the oil on the market is of good quality.

Gausby, R. A., points out that oil of anise is usually of good quality. Reports one case which showed slightly dextrogyrate and a melting point barely 15° C.—Proc. Pennsylvania Pharm. Ass., 1907, p. 76.

Blome, Walter H., (com. on adulterations) reports the examination of 5 samples. Congealing point from 12° to 13.5° C.—Proc. Michigan Pharm. Ass., 1907, p. 69.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 6) examined two questionable samples which tested as follows: Specific gravity 0.984, 0.988; optical rotation $+0^{\circ} 24'$ $-4^{\circ} 4'$; melting point 14.5° C., 11° C., and solidifying point 12° C. and 8° C. Both were soluble in 2.5 volumes of 90 per cent alcohol.

Heinrich Haensel (Half-Yearly Report, October, 1907, p. 5) points out that cordials and liquors flavored with anise oil remain bright even at a temperature of -9° C.

OLEUM AURANTII CORTICIS.

Brandel, I. W., presents the requirements for oil of sweet orange official in the U. S. P. VIII, and the Ph. Austr. VIII.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 123.

Schimmel & Co. (Semi-Ann. Rep., April, 1907, pp. 51-52) discuss the production of sweet orange oil in Sicily and Calabria, and call attention to the lack of labor for producing the crops which has a tendency to reduce the production of the oil, and, at the same time, advance the price of this article.

Scoville, W. L., asserts that oil of orange varies considerably in quality and flavor in fresh samples.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 328.

Charabot and Laloue (Bull. Soc. Chim., 3, 35, 913) report on the distribution of oil in the sweet orange tree and complete the series of observations already published on the formation and distribution of essential oils in the plant.—Year Book of Pharmacy, Lond., 1907, p. 117.

Hankey, William T., asserts that oils of lemon and orange are frequently washed with dilute alcohol in order to prepare the terpenless oils which are in great demand for soluble extracts, and the residue after washing mixed with fresh oil or sold as it is for prime oil.—Proc. Pennsylvania Pharm. Ass., 1907, p. 72.

OLEUM BETULÆ.

Mitchell, Edward, asserts that between oil of sweet birch and wintergreen artificial there is so little apparent difference that we buy the former from the farmers who distill the item in a small way, and we "watch the farmers."—Proc. Arkansas Pharm. Ass., 1907, p. 90.

An editorial points out that the production of birch oil is a business of quite large proportion in some parts of Delaware. The business is carried on by small distillers with a capacity of from 3 to 10 pounds per day.—*Paint, Oil and Drug Rev.*, Chicago, 1907, v. 43, May 8, p. 29.

A news item points out that for the manufacture of "oil of winter-green" farmers are paid \$3.50 per ton for birch brush; one factory in Connecticut using over 1,500 tons annually.—*Pharm. Era*, N. Y., 1907, v. 37, p. 125.

OLEUM CADINUM.

Caspari, Chas. E., (com. on adulterations) examined 3 samples of oil of cade, all incompletely soluble in ether.—*Proc. Missouri Pharm. Ass.*, 1907, p. 147.

OLEUM CAJUPUTI.

Brandel, I. W., presents the official requirements included in the U. S. P. VIII, Ph. Austr. VIII, and Ph. Hisp. VII.—*Pharm. Rev.*, Milwaukee, 1907, v. 25, p. 147.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, pp. 19-20) assert that America still stands at the top as a consuming country for oil of cajuput; as already mentioned, the consumption of this article in Europe has suffered considerably from the good and cheap eucalyptus oils.

Baker and Smith (*Proc. of the Linnean Soc.*, of N. S. W., 40, 1906, 60) give a description of the two species of Australian melaleucas, *Melaleuca thymifolia* Sm. and *M. linariifolia* Sm. They give detailed information on the oils contained in these species.—Schimmel & Co. Semi-Ann. Rep., April, 1907, p. 14.

Schimmel & Co., (Semi-Ann. Rep., April, 1907, p. 108) in commenting on the proposed changes in the Ph. Brit., point out that the lower limit for the specific gravity of cajuput oil is too high, viz, 0.922; it should read specific gravity 0.919 to 0.930. They are convinced that the phosphoric-acid method, for the determination of cineol, does not give reliable results and for this reason can not recommend it as useful.

Hankey, William T., asserts that it has not been possible for him to secure a green-colored oil that will stand the U. S. P. test for copper. He has seen but one sample of green oil that was free from copper, but received an oil that contained the usual amount of copper. The demand of the trade seems to be for the green oil. Commercial oil also runs considerably below the required 55 per cent cineol, the lowest amount found being 30 per cent, and with one exception the highest was 47 per cent.—*Am. Druggist*, N. Y., 1907, v. 50, p. 8.

Gausby, R. A., asserts that nothing but the redistilled oil meets the requirements. Different lots examined assayed from 49 to 58 per

cent cineol. All showed presence of copper. It is possible, though difficult, to procure oil assaying 55 per cent or over of cineol.—Proc. Pennsylvania Pharm. Ass., 1907, p. 77.

Gane, E. H., reports one sample original bottle adulterated with kerosene and turpentine. Specific gravity 0.915 rotation $+0.5^\circ$ cineol 35 per cent, traces of copper.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 328.

Patch, E. L., examined 3 lots which contained copper. One lot of rectified free from copper.—*Ibid.*, v. 55, p. 328.

Caspari, Chas. E., (com. on adulterations) examined eight samples. All contained copper.—Proc. Missouri Pharm. Ass., 1907, p. 146.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 12) examined three samples of cajuput oil. Two gave a specific gravity of 0.920 and 0.919; optical rotation $-2^\circ 10'$, -2° and contained 51.2 and 45 per cent of cineol, respectively. One gave specific gravity of 0.917 and contained 52.1 per cent cineol.

Gilmour, J. P., reports 1 out of 8 samples which did not comply with Ph. Brit. requirements; Cu present.—Year Book of Pharmacy, Lond., 1907, pp. 446-455.

OLEUM CARI.

Brandel, I. W., calls attention to a study of oil of caraway and presents the official requirements for oil of caraway in the U. S. P. VIII, and for carvone in the Ph. Austr. VIII.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 152.

Schimmel & Co. (Semi-Ann. Rep., April, 1907, p. 108) point out that the rotation of the normal caraway oil lies between 70 and 80° . Also (*Ibid.*, October, 1907, p. 101) point out that the U. S. P. corrections up to June 1, 1907, provide that caraway oil should have a specific gravity of from 0.900 to 0.910.

OLEUM CARYOPHYLLI.

Brandel, I. W., reviews some of the literature relating to oil of cloves, and gives the official requirements included in U. S. P. VIII, and the Ph. Hisp. VII.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 147.

Thurston, Azor, states that Lithgoe gives -3.1° V., in a 100 mm. tube, as the proper reading for oil of cloves, and that Leach's figures are -3.8° V., in 100 mm. tube. —Merck's Report, N. Y., 1907, v. 16, p. 124.

Mossler, Gustav, discusses the bromine absorption property of oil of cloves and the possibility of utilizing this property as an indication of the eugenol content of the oil, also presents the results of a number of examinations in the form of a table.—Ztschr. d. allg. österr. Apoth.-Ver., Wien, 1907, v. 45, p. 284.

Schimmel & Co. (Semi-Ann. Rep., April, 1907, p. 119) discuss the determination of phenols, pointing out that they determine the eugenol in all oils containing this body, exclusively with 3 per cent soda liquor.

Hankey, William T., asserts that oil of cloves is frequently deficient in eugenol, possibly due to the demand made for eugenol in the manufacture of vanillin.—Proc. Pennsylvania Pharm. Ass., 1907, p. 72.

Graham, Willard, found one sample of oil of cloves to be below the U. S. P. VIII standard for specific gravity.—*Ibid.*, 1907, p. 238.

Baird, J. W., (com. on adulterations) reports on 13 samples: 11 genuine, 2 adulterated.—Proc. Massachusetts Pharm. Ass., 1907, p. 39.

Patch, E. L., reports an examination of 6 lots, with a specific gravity of from 1.0420 to 1.0461, and from 83 per cent to 87 per cent of eugenol. One lot had a specific gravity of 0.9199. It proved to be a very poor mixture of residues and was worthless.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 328.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 17) report that their distillates this year have consistently tested from 88 to 90 per cent of eugenol by the potash absorption method.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, p. 37) report on a sample of oil of cloves originating from Seychelles, which resembles ordinary clove oil in the color and odor.

An editorial quotes Webster as asserting that oil of cloves, on account of its pronounced bactericidal action, constitutes an excellent disinfectant for the hands, for which it is distinctly preferable to mercuric dichloride.—Pacific Pharm., San Francisco, 1907, 1908, v. 1, p. 428.

OLEUM CHENOPODII.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, p. 102) note that in the corrections of the U. S. P. up to June 1, 1907, requirements of specific gravity, rotation, and solubility have been canceled.

Nelson, Burt E., describes and figures the structural characteristics of chenopodium.—Merck's Report, N. Y., 1907, v. 16, p. 162.

Thurston, Azor, gives the angle of rotation of oil of chenopodium as not exceeding 5° in a 100 mm. tube at 25° C.—*Ibid.*, v. 16, p. 124.

Kremers, Edward, reports an experience with American wormseed oil, a sample of which, when an attempt was made to distill, decomposed with violence. As he points out, the oil is unique in its behavior, and is deserving of more careful study.—Parm. Rev., Milwaukee, 1907, v. 25, pp. 155-157.

Caspari, Chas. E., (com. on adulterations) examined 4 samples. All were low in specific gravity.—Proc. Missouri Pharm. Ass., 1907, p. 147.

Cuniasse, L., (Journ. Pharm. Chim., 25, 180) asserts that the presence of oil of wormseed in the proportion of 3:1,000 may be detected in alcoholic solutions by means of reactions, which are due to the occurrence of the ketone, thujone, in the oil.—Year Book of Pharmacy, Lond., 1907, p. 178.

Brüning, H., (D. Med. Wschr., 1907, No. 11) reports experiments on children which have confirmed previous conclusions that the oil of American wormseed (*Chenopodium anthelminticum*, L.) does not only deserve to rank side by side with santonin as its equal, but that disturbances which have always to be taken into account when santonin is administered never occur in a manner worth mentioning if wormseed oil is taken as an anthelmintic.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 322.

OLEUM CINNAMOMI.

Brandel, I. W., presents a review of the recent literature on oil of cinnamon, and gives the requirements for cinnamic aldehyde in the U. S. P. VIII and the Ph. Austr. VIII.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 61.

Lushring and Thamm (Analyst, 31, 231, 6364; Untersuch. Nahr. Genussm. 11, 129; 12, 113) examined samples of cassia bark containing ash from 2.36 to 2.37 per cent; water-soluble ash, 0.90 to 0.96 per cent; alkalinity of water-soluble ash, as above, 5.95 to 6.14; of insoluble ash, 28.6 to 29.4.—Year Book of Pharmacy, Lond., 1907, p. 150.

Mossler, Gustav, reports experiments on the bromine absorption property of oil of cinnamon, and presents a table giving the bromine number of various oils examined.—Ztschr. d. allg. österr. Apoth.-Ver., Wien, 1907, v. 45, pp. 300–301.

A special correspondent, writing from Hankow, China, asserts that the method used in the production of oil of cassia is not definitely known; as few Europeans ever go into these regions, it is difficult to learn much about the methods employed. They are believed to be very primitive, indeed.—Oil, Paint and Drug Reporter, New York, 1907, v. 71, June 24, p. 30.

Blome, Walter H., (com. on adulterations) reports samples of oil of cassia containing lead and copper.—Proc. Michigan Pharm. Ass., 1907, p. 69.

Gausby, R. A., points out that it is impossible to procure an oil free from colophony, except the redistilled article. All samples examined contained from 75 to 85 per cent of cinnamic aldehyde, with one exception, which contained 74 per cent. All samples, except the redistilled article, contained traces of lead from the containers.—Proc. Pennsylvania Pharm. Ass., 1907, p. 77.

Baird, J. W., (com. on adulterations) reports 14 samples, 8 genuine, 6 adulterated.—Proc. Massachusetts Pharm. Ass., 1907, p. 39.

Hirschsohn reports oil of cassia regularly adulterated with resin. One volume pure dissolves clear in three volumes of 70 per cent alcohol. If 5 per cent of resin is present it is opalescent. One part of pure oil is slowly soluble in three parts of petroleum ether. Specific gravity 0.650. Resin, fatty oils and other essential oils separate out.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 328.

Gane, E. H., asserts that most of the imported oil of cassia contains traces of lead and some resin compounds.—*Ibid.*, v. 55, p. 328.

Patch, E. L., says that the common oil of cassia contains lead. Twice rectified is free from lead. Three lots examined had a specific gravity of from 1.0508 to 1.520 and all contained 90 per cent of cinnamic aldehyde.—*Ibid.*, v. 55, p. 328.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 15) examined two samples with specific gravity of 1.064 and 1.062; optical rotation -2° , $-1^\circ 30'$; aldehyde content 80 and 84 per cent. Both were soluble in two volumes in 70 per cent alcohol.

An abstract from *Therap. Monatsh.* points out that oil of cinnamon is suggested as a remedy for influenza given in a half glass of water. During the first two hours of treatment 12 drops of the oil is given twice, an hour intervening between the doses; afterwards, 10 drops every two hours until the temperature becomes normal.—*Pharm. J. Lond.*, 1907, v. 25, p. 625.

OLEUM CINNAMOMI ZEYLONICUM.

Gausby, R. A., reports one lot of oil of Ceylon cinnamon suspiciously like oil of cassia. It assayed 90 per cent cinnamic aldehyde.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 76.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, pp. 16-17) found 3 abnormal samples and 2 questionable, ranging from 0.989 to 1.053 specific gravity and from $-1^\circ 0'$ to $4^\circ 30'$ optical rotation. One abnormal contained 62 per cent phenols and two 17.0 and 17.5 per cent phenols and 77 to 70 per cent aldehyde. Six normal samples examined ranged from 1.023 to 1.039 specific gravity, and from $-0^\circ 10'$ to $-1^\circ 8'$ optical rotation, 6 to 13 per cent phenols, and 72 to 84 per cent cinnamic aldehyde.

Heinrich Haensel (Half-Yearly Report, April, 1908, p. 9) describes a terpeneless oil of cinnamon having a golden yellow color, a specific gravity of 1.0325 at 15° C., an optical rotation of $-0.32'$ at 20° C. in a 100 mm. tube; one part by weight required for its complete solution only 1.8 parts by weight of 70 per cent alcohol.

Schimmel & Co. (Semi-Ann. Rep., April, 1907, p. 28) give the results of the examination of the essential oil from the bark of the trunk of *Cinnamomum pedunculatum* Nees (*C. japonicum* S. et Z.) by Keimatsu and Asahina. The oil differed completely from the ordinary cinnamon oil: Specific gravity 0.917; optical rotation $280^\circ 54'$

($-4^{\circ} 40'$); acid number 0; saponification number 0; saponification number after acetylation 84.6. The oil was rich in phellandrene and contained also a small quantity of eugenol, and methyl eugenol which was identified by oxidation with veratric acid.

OLEUM COPAIBÆ.

Brandel, I. W., reviews some of the recent literature relating to oil of copaiba, its origin, and the detection of adulteration.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 64.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, p. 101) point out that the requirement of solubility of copaiba oil in the U. S. P. has been canceled.

Parry, Ernest J., points out that at times oil of copaiba with a rotation of -25° may be found, but that rarely oil may be found with a rotation of -9° . He asserts that with care the oil obtained by steam distillation and by direct distillation *in vacuo* should exhibit little differences in optical rotation.—Chem. & Drug. Lond., 1907, v. 71, p. 518.

Weigel, G., takes exceptions to some of the statements made by Parry on the optical rotation of the essential oil of copaiba and reports a variation in optical rotation of from 5° to 28° .—*Ibid.*, v. 71, pp. 617-618.

An editorial points out that the Ph. Brit. requirement of rotation, -28° to -34° is admittedly an error in abstraction, and should be -14° to $-17^{\circ} 30'$. The U. S. P. merely requires the oil to be lævorotatory.—*Ibid.*, v. 70, p. 521.

OLEUM CORIANDRI.

Bernegau, Henry, reports on a sample of oil of coriander which complied with the U. S. P. requirements for specific gravity and solubility but had an optical rotation of -15.4 in place of $+7^{\circ}$ to $+14^{\circ}$ required by the U. S. P.—Am. J. Pharm., Phila., 1907, v. 79, p. 534.

Schimmel & Co. (Semi-Ann. Rep., April, 1907, p. 108) assert that coriander oil is dextrorotatory, having an optical rotation of $+8^{\circ}$ to $+13^{\circ}$.

A correspondent asserts that pure coriander oil can be prepared without difficulty and that the product obtained by using orange oil as it is found now and then, even at the present time, must be considered as adulterated and if the foreign ingredient is not made known, its sale is a fraud.—Proc. Pennsylvania Pharm. Ass., 1907, p. 60.

OLEUM CUBEÆ.

Schimmel & Co., (Semi-Ann. Rep., April, 1907, p. 108) in commenting on the proposed changes in the Ph. Brit., point out that the lower limit of optical rotation for cubeb oil should be fixed at -25° .

OLEUM ERIGERONTIS.

Brandel, I. W., calls attention to a study of oil of erigeron by Rabak, and gives the properties of two oils as recorded by him.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 185.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, p. 101) point out that the corrections of the U. S. P. up to June 1, 1907, provide that oil of erigeron should have optical rotation not below $+45^\circ$ at 25° C. They state that in recent times they have had to deal with authentic erigeron oils which had a distinctly higher specific gravity than that allowed by the U. S. P. The oils in question amounted up to 0.887 at 15° C. corresponding to 0.881 at 25° C.

Hankey, William T., has failed to find a sample of erigeron oil that complied with all of the requirements of the U. S. P. He reports observations on a number of samples which were supposed to be of good quality, several coming direct from the Michigan distillers. Not having been able to secure what might be called an authentic sample, he is not prepared to say whether the requirements are too high or whether the variation is due to the admixture of weedy oils.—Am. Druggist, N. Y., 1907, v. 50, p. 8.

OLEUM EUCALYPTI.

Brandel, I. W., reviews some of the literature relating to oil of eucalyptus from various sources, and presents the official requirements of the U. S. P. VIII, and the Ph. Hisp. VII for oil of eucalyptus and for eucalyptol.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 148.

Mossler, Gustav, records experiments on the bromine absorption property of oil of eucalyptus, and presents a table giving the bromine number of eucalyptus oils and of eucalyptol.—Ztschr. d. allg. österr. Apoth.-Ver., Wien, 1907, v. 45, pp. 299–300.

Smith, H. G., (J. Pro. Roy. Soc., N. S. Wales. 39, 39–47) presents a list of the refractive indices with other data of the oils of 118 species of eucalyptus.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 1893.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, p. 53) call attention to the work of Maiden, who presents a study of eucalytus in which he describes various species in detail.

Baker, R. T., (Proc. Linnean Soc., of N. S. W., 1906, part II, 303) discusses the oils contained in *Eucalyptus carnea*, sp. nov. (Syn. *E. umbra* R. T. Baker, partim.) and *E. thozeiana* F. v. M.—Schimmel & Co. Semi-Ann. Rep., April, 1907, p. 52.

Bernegau, Henry, found the cineol content of oil of eucalyptus to be too low in most cases, some oils assaying only 10 to 15 per cent instead of 50 per cent.—Am. J. Pharm. Phila., 1907, v. 79, p. 554.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 22) report on the examination of 30 samples from various sources, 4 of which were of inferior quality.

Schimmel & Co. (Semi-Ann. Rep., Oct., 1907, 45-50) find that with the "phosphoric acid U. S. P. method," a really correct result is a matter of chance, and the method consequently unreliable and useless. With the aid of "hydrobromic acid" partly correct results were obtainable, but without being able to obviate in some cases quite considerable losses. They have now found that "resorcinol" is a more suitable substance for the quantitative separation of cineol from the oils, and describe the process for carrying out the determination.

Phillips, L. C. (Lancet) reports his experience with the use of eucalyptus oil in ankylostomiasis and asserts that this treatment is more successful than thymol is in such doses as can be given in safety. He gives it in doses of 2.50 gm. of eucalyptus oil, mixed with chloroform 3.50 gm. and castor oil 40 gm.—Drug Topics, N. Y., 1907, v. 22, p. 137.

Blumel (Beit. z. Klinik d. Tuberkulose, Würzburg, v. 8, No. 2) cites Berliner in regard to the treatment of tuberculosis with oil of eucalyptus, and states that transient benefit followed its use in a little more than half of his cases so treated. Pain at seat of injection, loss of appetite from disagreeable odor in breath, and occasional albuminaria were observed.—J. Am. M. Ass., 1907, v. 49, p. 1960.

OLEUM FENICULI.

Brandel, I. W., gives a structural formula, recommended by Semmler, for fenchone, and the official requirements for oil of fennel in the U. S. P. VIII, and the Ph. Austr. VIII.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 152.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, p. 103) point out that solidification must sometimes be started by inoculation with a small quantity of solid anethol, as under certain conditions fennel oil may be cooled much below its solidification point without actually solidifying.

Thurston, Azor, gives the angle of rotation of oil of fennel as being from $+7^{\circ}$ to $+20^{\circ}$.—Merck's Report, N. Y., 1907, v. 16, p. 124.

OLEUM GAULTHERIÆ.

An editorial asserts that much of the oil of wintergreen of commerce is made from black birch brush, and describes the method of manufacture in the region of Huntington and Chester, Mass.—Paint, Oil and Drug Rev., Chicago, 1907, v. 43, Jan. 9, p. 18.

Schimmel & Co. (Semi-Ann. Rep., April, 1907, p. 102) point out that, owing to the new food and drugs act in the United States, the use of the natural oil has been taken up again more largely, whereas up to the present the artificial oil had been chiefly employed for flavoring.

Thurston, Azor, asserts that oil of gaultheria is slightly lævogyrate up to -1° in 100 mm. tube at 25° C. Commercial samples examined were optically inactive. He quotes Leach as stating that oil of wintergreen is optically inactive.—Merck's Report, N. Y., 1907, v. 16, p. 124.

Scoville, W. L., states that oil of wintergreen sold as leaf oil is optically inactive. It has a birch-like odor.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 329.

Gausby, R. A., reports the examination of one lot of oil of gaultheria containing a small quantity of petroleum oil, probably due to the oil having been placed in a dirty container, as this method of cheapening the product is no longer used. He points out that as admixture with synthetic oil is almost impossible to detect, a reliable source of supply at first hand is absolutely essential.—Proc. Pennsylvania Pharm. Ass., 1907, p. 77.

Patch, E. L., examined 3 lots varying in specific gravity from 1.179 to 1.1763 and from -0.4 to -0.5 optical rotation.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 329.

OLEUM GOSSYPII SEMINIS.

The resolutions adopted by the Interstate Cottonseed Crushers' Association point out that cotton-seed oil is the most valuable product made from cotton seed, and that it is now sold under well-defined rules and regulations satisfactory to the buyer and seller, and that no additional legislation is required to regulate its production or sale.—Oil, Paint and Drug Reporter, New York, 1907, v. 71, June 3, p. 28N.

Kuhn and Bengen (Z. Nahr. Genussm., 12, 145) review the work that has been done in connection with the "Halphen reaction" and show that the test is greatly affected by the method employed. By using a reflux condenser to prevent the loss of carbon bisulphide they found that the reaction was greatly retarded, which they explain on the ground that the proper temperature is not reached, as the reaction takes place best at from 100° to 105° . They regard the great difference in sensitiveness for this test as reported in the literature as due to the difference in methods employed.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 69.

Rupp, E., (Pharm. -chem. Inst., Marburg. Z. -Nahr. -Genussm. 13, 74-76) suggests that the Halphen reaction be determined in a pres-

sure flask, reports some experiments and adduces several reasons to corroborate his statement.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 1067.

Petkow, Nikola, reviews the several tests for cotton-seed oil, and concludes that the active substances causing the Halphen and Bocchi reactions are not identical and are probably unsaturated fatty acids. These substances vary in quantity and proportion and the resulting reactions are therefore not uniformly intense.—Ztschr. f. öffentl. Chem., 1907, v. 13, pp. 21–25.

Wesson, David, discusses the value of cotton-seed oil in the manufacture of soap, and asserts that the best method of refining cotton-seed oil up to the present time consists in treating it with caustic soda, which is done in large tanks containing from 50 to 300 barrels.—J. Soc. Chem. Ind., Lond., 1907, v. 26, p. 595.

An unsigned article points out that crude cotton-seed oil is dark, reddish brown to black in color, and must be refined for most purposes. It is settled until a slimy precipitate has deposited, then agitated with caustic alkali solution, and again allowed to settle. The sediment or "foots" is used for soap stock. If the oil is clarified with fuller's earth, and chilled below 12° C., the palmitin and stearin crystallize, and are removed by cold pressing. This solid fat is called cotton-seed stearin, and is used in making oleomargarine.—Paint, Oil and Drug Rev., Chicago, 1907, v. 44, October 9, p. 33.

The report of the Interstate Cottonseed Crushers' Association records the rules adopted by that association to govern all trades in cotton seed and cotton-seed products; also a set of resolutions asking for state and federal legislation to control commerce in cotton seed and cotton-seed products.—Oil, Paint and Drug Reporter, New York, 1907, v. 71, June 3, pp. 28M, 28N.

OLEUM HEDEOMÆ.

Brandel, I. W., calls attention to some recent publications on oil of pennyroyal and the constants of the U. S. P. VIII.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 181.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, p. 68) report that the scarcity of oil of European pennyroyal has become somewhat less pronounced by the arrival of the new Spanish distillate. A few large parcels recently sold had to be rejected on account of defective quality.

Gausby, R. A., reports that pennyroyal oil is occasionally adulterated. One lot examined contained turpentine and one lot shipped as oil of pennyroyal U. S. P. proved to be French oil of pennyroyal.—Proc. Pennsylvania Pharm. Ass., 1907, p. 77.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 36) examined 3 French oils, which tested as follows: Two had a specific gravity of .928 and .939; optical rotation $+6^\circ$, $+9^\circ 30'$. Soluble in 3 volumes of 70 per cent alcohol. The other sample gave a specific gravity of .926; optical rotation, $0^\circ 20'$. The normal figures of 4 samples were: Specific gravity, from .930; optical rotation $+17^\circ$ to $+23^\circ$. Soluble in 3 volumes of 70 per cent alcohol.

Barrowcliff, Marmaduke, reports on the constituents of the essential oil of American pennyroyal.—J. Chem. Soc. Lond., 1907, v. 91, pp. 875-887.

OLEUM HYOSCYAMI COMPOSITUM N. F.

Beringer, George M., criticises the note under compound oil of hyoscyamus and objects to the inclusion of "Balsamum Tranquillans" as a synonym. He also objects to the substitution of a mixture of lard oil and cotton-seed oil in place of olive oil for the making of infused oil of hyoscyamus similar to that official in the Ph. Germ.—Am. J. Pharm., Phila., 1907, v. 79, p. 354. (See also Proc. New Jersey Pharm. Ass., 1907, p. 74.)

OLEUM JUNIPERI.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, p. 101) note that in the corrections of the U. S. P. up to June 1, 1907, the requirement of solubility is omitted.

Thurston, Azor, gives the angle of rotation of oil of juniper as being $+0^\circ$ to -18° . A commercial sample examined by him gave -1.5° V. in a 100 mm. tube.—Merck's Report, N. Y., 1907, v. 16, p. 124.

An editorial discusses the question of what is oil of juniper and points out that the Ph. Brit. is the most inadequate guide for the purity examination of this oil.—Pharm. J. Lond., 1907, v. 25, pp. 65-66.

Bird, F. C. J., reports observations on oil of juniper and asserts that the present Ph. Brit. monograph on oleum juniperi certainly requires to be made more definite. He suggests as a possible explanation of the differences observed between English and foreign oil of juniper, that the English oil consists of the entire distillate from the juniper berries, whereas the imported oil may be the lighter portion of the oil separated by redistillation.—*Ibid.*, v. 25, pp. 130, 131.

Umney, John C., thinks that there is considerable doubt as to whether the medicinal properties of juniper are due to pinene or cadinene, and asserts that if the medical council would indicate what they wanted the pharmacists would at once proceed to frame a series of tests to meet their requirements.—*Ibid.*, v. 25, p. 150.

Umney and Bennett discuss the question "What is oil of juniper?" and outline limitation tests for oils of good quality.—*Ibid*, v. 25, p. 131.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, pp. 27, 28, 29) again call attention to the great discrepancy existing between the entire distillates produced by themselves and much of the so-called genuine "rectified" berry oil of continental origin.

Brewis, E. T., asserts that foreign oil of juniper is a by-product rather than a normal distillate of juniper berries. Some of the foreign oils have a much lower specific gravity; samples submitted to him were as low as 0.859 and even 0.858.—*Pharm. J. Lond.*, 1907, v. 25, p. 149.

Rodié, J., (*Rev. gén. Chim.*, 1906, v. 9, p. 444) discusses the several kinds of oil of juniper and classifies them according to their derivation.—*Chem. Repert.*, Cöthen, 1907, v. 31, p. 326.

OLEUM LAVENDULÆ FLORUM.

Brandel, I. W., calls attention to the change in physical constants produced by several adulterants for oil of lavender, and gives official requirements of the U. S. P. VIII, Ph. Austr. VIII, and the Ph. Hisp. VII.—*Pharm. Rev.*, Milwaukee, 1907, v. 25, p. 154.

Schimmel & Co. (*Semi-Ann. Rep.*, October, 1907, p. 101) note that the U. S. P. corrections up to June 1, 1907, require that lavender oil have a specific gravity of from 0.875 to 0.910 at 25° C.

They (*Ibid.*, April, 1907, 62) also present the results of comparative experiments conducted at Barreme with dry steam and high water distillation which prove conclusively that a higher yield of oil with a richer percentage of esters is obtained in a shorter time by the former method than by the old-fashioned and generally followed process of distillation. It is further found that fresh flowers give a better result than those which have been partially dried.—*Year Book of Pharmacy*, Lond., 1907, p. 90.

Gausby, R. A., asserts that a fairly good oil should assay not less than 30 per cent of ester. Several lots examined ran considerably below this figure, although no fraudulent additions were found.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 77.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 30) detected only one case of flagrant adulteration. The oil in question tested 0.883 of specific gravity: optical rotation $-18^{\circ} 8'$ and was not soluble in 70 per cent alcohol. A large proportion of fixed oil was present. Normal samples tested 0.919 to 0.916 specific gravity and $-0^{\circ} 20'$ to $+6^{\circ} 20'$ optical rotation. Ester (as linalyl acetate) 2 to 5 per cent, soluble in from 2 to 3 volumes of 70 per cent alcohol. They also examined French "Petalæ," which tested a specific gravity of

from 0.891 to 0.903 and from $-4^{\circ} 12'$ to $-8^{\circ} 18'$ optical rotation. Ester (as linalyl acetate) 28 to 41.3 per cent, soluble in 3 volumes of 70 per cent alcohol.

OLEUM LIMONIS.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, p. 102) note that the corrections of the U. S. P. up to June 1, 1907, require that lemon oil have an optical rotation not below $+58^{\circ}$ at 25° C.

Brandel, I. W., reviews the literature of 1905 relating to oil of lemon and gives the requirements included in the U. S. P. VIII, Ph. Austr. VIII, and the Ph. Hisp. VII.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 122.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, p. 103) note that the new Ph. Dan. requires that lemon oil be a light yellow; specific gravity 0.858 to 0.861 at 15° C.; with 5 volumes alcohol it forms a not quite clear solution; must not show a strong acid reaction. They add that it would have been better to have given 0.857 as lower limit of value.

Barrett, Arthur A., in a letter to an English publication, describes the method of making lemon oil as in vogue in Messina, Italy.—Paint, Oil and Drug Rev., Chicago, v. 43, March 6, p. 12.

Thurston, Azor, discusses the application of the polariscope to the examination of spirit of lemon and describes the optical rotation of this preparation.—Merck's Report, N. Y., 1907, v. 16, p. 125.

Berté and Romeo point out that oil of lemon has chemical and physical characters which are changeable. They assert that the limitations of the U. S. P. are so inconsistent with the facts as to be an obstacle to the local trade as well as to business in the U. S. A. The American customs authorities, on the basis of the Pharmacopœia, refuse to admit absolutely pure oil of lemon. They discuss the U. S. P. methods of analysis and point out that the methods given can not give satisfactory results.—Chem. & Drug., Lond., 1907, v. 71, p. 772.

Gane, E. H., refers to the difficulty of obtaining oil of lemon that will stand the U. S. P. requirements for citral, while answering all others, and points out that it has been stated that the official descriptions are based on commercial products.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 320.

A manufacturer of oil of lemon complains that upon inquiry he was told that the U. S. P. was the standard for oil of lemon; that the standard was contained in circular No. 19, and that a paper headed "Corrections of the U. S. P., May 1, 1907," was the real standard.—Oil, Paint and Drug Reporter, New York, 1907, v. 72, December 30, p. 8.

An editorial points out that the United States market for lemon oil has been greatly perturbed of late, owing to the fact that several large parcels of pure oil from Sicily have been rejected by the customs authorities, while others have been detained pending investigation. The Messina Chamber of Commerce has taken up the matter, and dispatched Dr. Giuseppe Bosurgi, an Italian expert, to New York.—*Chem. & Drug.*, Lond., 1907, v. 71, p. 756.

A news note asserts that the experts of the Bureau of Chemistry admit that the lemon-oil importations are subject to more severe tests than formerly. They assert that the severity of these facts is not to be relaxed.—*Oil, Paint and Drug Reporter*, New York, 1907, v. 72, November 11, p. 28F.

Schimmel & Co. (*Semi-Ann. Rep.*, April, 1907, 50) point out that the lemon oil produced during the recent season has had an abnormally high citral content, with a low specific gravity, and a very low optical rotation. The specific rotation of the present season's oil is so low that the requirements of the U. S. P., the lowest limit of which is $+60^\circ$ at 25° C., can hardly be met, and will not be attained as the crop progresses. All of this year's oils have a very poor solubility, with a high citral content at the commencement of the season, which occasioned much trouble; as the fruit ripened, however, the solubility improved.

An editorial points out that because of the enforcement of the pure food and drugs law shipment after shipment of oil of lemon has recently been rejected by the government authorities. In some cases as high as 20 per cent of adulteration has been detected.—*Meyer Bros. Drug.*, St. Louis, 1907, v. 28, p. 505.

Hankey, William T., asserts that he has been able to secure this oil of a quality that is above reproach, but has been unable to do anything toward the estimation of citral when using the formerly prescribed indicator, viz. phenolphthalein.—*Am. Druggist*, N. Y., 1907, v. 50, p. 8.

Stallman, A. C., points out that two shipments of oil of lemon have been rejected, one being adulterated most grossly with turpentine and the other being adulterated with alcohol.—*Proc. N. W. D. A.*, 1907, 33rd Ann. Meet., p. 155.

Bachman, Gustav (com. on adulterations), reports oil of lemon ranging from 3.2 per cent to 1.64 per cent of citral in place of 4 per cent required by the U. S. P.—*Proc. Minnesota Pharm. Ass.*, 1907, p. 41.

Baird, J. W., (com. on adulterations), reports on 18 samples, 9 genuine, 9 adulterated.—*Proc. Massachusetts Pharm. Ass.*, 1907, p. 40.

Scoville, W. L., points out that it is very difficult to obtain oil with 4 per cent of citral by U. S. P. assay. Samples tested as low as 1.8 per cent citral; a guaranteed product was only 2.2 per cent.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 328.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 31) report 2 samples, out of the 25 examined, as not genuine. In both cases the optical rotation fell below $+40^\circ$, and the specific gravity above 0.860. They have not, as yet, been able to use satisfactorily the citral estimation methods of the U. S. P. and N. S. D. In their opinion the most satisfactory procedure is the neutral sulphite method of H. E. Burgess (Analyst, 1904, p. 78). The proportion of aldehyde present in the terpeneless lemon oils of different makers varies greatly. By the above method they have found as little as 46 per cent, as much as 62 per cent (by volume), absorbed by sodium sulphite, whilst the specific gravity is usually between 0.894 and 0.898 and rotation between -7° and -8° .

Parry and Bennett (Chem. and Drugg., 69, 481) examined a small sample of essential oil distilled in the south of Spain and sent over to this country under the name of thyme lemon.—Year Book of Pharmacy, Lond., 1907, p. 161.

OLEUM LINI.

Ura, K., reports that a number of experiments with authentic samples of linseed oil would indicate that the iodine number is quite uniformly above 170, and suggests that the Ph. Japon III requirement (not less than 150) can safely be increased.—J. Pharm. Soc. Japan, 1907, pp. 995–1014.

Thurston, Azor, asserts that oil of linseed is slightly lævorotatory and that strong deviation of the polarized light to the right would indicate the presence of rosin oil. He quotes Bishop as stating that sesame oil may be suspected in case the polarization is to the right.—Merk's Report, N. Y. 1907, v. 16, p. 124.

Frey, Henry C., contributes a brief note on the qualitative detection of sulphur dioxide in linseed oil, by means of starch iodate paper.—J. Am. Chem. Soc., 1907, v. 29, p. 1372.

OLEUM MENTHÆ PIPERITÆ.

Brandel, I. W., calls attention to some recent literature relating to oil of peppermint, and gives the official requirements of the U. S. P. VIII, Ph. Austr. VIII, and the Ph. Hisp. VII.—Pharm. Rev., Milwaukee, 1907, v. 25, pp. 182–183.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, p. 102) note that the corrections of the U. S. P. up to June 1, 1907, require that oil of peppermint have an optical rotation of from -20° to -33° at 25° C.; ester content (menthyl-acetate) at least 6 per cent.

They also point out (*Ibid.*, October, 1907, p. 103) that the new Ph. Dan. contains the following requirements for oil of peppermint: Colorless, yellowish, or greenish-yellow; specific gravity from 0.900 to 0.920 at 15° C.; at 20° C. soluble in 3 to 5 volumes dilute

alcohol; when more solvent is added, at most a slight cloudiness may occur.

Thurston, Azor, asserts that a sample of oil of peppermint examined by him gave an angle of rotation of -24.1° . He quotes several authors, who give widely varying degrees of optical rotation.—Merck's Report, N. Y., 1907, v. 16, p. 124.

Mossler, Gustav, discusses the bromine absorption qualities of peppermint oil and presents in the form of a table the results of experiments on the bromine number, the menthol content, and the computed bromine number of the menthol free constituents.—Ztschr. d. allg. österr. Apoth. Ver., Wien, 1907, v. 45, pp. 283-284.

A news note discusses the cultivation of peppermint plant in America, the production of the oil, and the method of marketing it.—Pharm. J. Lond., 1907, v. 24, p. 347.

Babbitt, E. G., American vice-consul at Yokohama, reports that the peppermint plant used in the production of oil of peppermint is principally grown in Hokkaido, Yamagataken, Okayamaken, and Shiroshinoken, and gives additional information in regard to the production of oil of peppermint and menthol and the amount of oil exported from Yokohama and other Japanese ports to various countries.—*Ibid.*, v. 24, p. 204.

A review of the peppermint-oil industry of Japan gives the amount, value, and destination of the oil of peppermint exported from Japan during the years 1902-1906, inclusive.—Chem. Ind., Berl., 1907, v. 30, p. 402.

Schimmel & Co. (Semi-Ann. Rep., April, 1907, pp. 81-82) present tables giving the production of peppermint in Japan in 1906. Tables are also given showing the shipments of the oil from Japan from 1902 to 1906, inclusive, and the export of peppermint oil and menthol from Japan in each month of 1906.

An editorial points out that the Japanese oil of peppermint is obtained from a different species of mint than that which produces the true oil of peppermint and is an inferior oil having an unpleasant odor and bitter taste, but it is a heavy oil, containing a higher percentage of menthol, and, being a very much cheaper oil, it is liable to be used as an adulterant of the true peppermint oil.—Oil, Paint, and Drug Reporter, N. Y., 1907, v. 71, Feb. 4, p. 28D.

Gehe & Co. (Handels-Bericht, 1907, pp. 39-40) discuss the production of oil of peppermint and point out that there is a material reduction in the amount of peppermint grown in all of the producing countries, the production in the United States being at least 25 per cent lower than in previous years.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, pp. 69-71) report on the condition of the peppermint crops in the United States, England, Japan, and France.

Gawalowski, A. (Pharm. Post, 39, 786, 1906), gives an account of the color and other changes produced by the addition of sulphuric acid (with or without alcohol) to samples of peppermint oils. Also the action of certain oils toward chloral hydrate.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 1164.

Hankey, W. T., has found the solubility in 17 per cent of alcohol of good Michigan oil to range from 1 in $2\frac{1}{2}$ parts to 1 in $3\frac{1}{2}$ parts, the majority being 1 in 3 parts. Less soluble oils have a marked weedy odor and are not desirable. He also reports on a number of observations made on different samples of peppermint.—Am. Druggist, N. Y., 1907, v. 50, p. 8.

Gausby, R. A., reports that only 1 lot of the samples examined contained the requisite percentage of menthol in the form of ester. This assayed 8.09 per cent of menthol acetate. The total menthol content of each of the oils ranged well over the required standard.—Proc. Pennsylvania Pharm. Ass., 1907, p. 77.

Blome, Walter H. (com. on adulterations), reports that oil of peppermint conforms to official requirements.—Proc. Michigan Pharm. Ass., 1907, p. 70.

Seoville, W. L., points out that many commercial brands not redistilled have a coarse flavor.—Proc. Am. Pharm. Ass., 1907, v. 55, pp. 328–329.

Patch, E. L., examined 4 lots varying from 7.61 per cent to 9.27 per cent of menthyl acetate and from 52.73 per cent to 57.66 per cent of total menthol. Specific gravity 0.900 to 0.9045. Rotation -21.5° .—*Ibid.*, v. 55, pp. 328–329.

Elborne and Warren report observations on a number of samples of English oil of peppermint which, as they point out, while not exactly deviating from the official requirements, can be made to comply only by following particular methods of manipulation. The behavior of the several samples toward the official requirements are presented in the form of a table.—Pharm. J. Lond., 1907, v. 25, p. 359.

Parry, E. J., points out that many peppermint oils come on the market which are offered as "English distilled peppermint oil," but which are nothing but American peppermint oil rectified in England and to which at the utmost a small quantity of English oil has been added.—Chem. & Drug., Lond., 1907, v. 70, p. 100.

Lythgoe, Hermann C., reports 5 samples of spirit of peppermint out of the total of 8 examined as being adulterated.—Rep. Massachusetts Bd. Health, 1907, 1908, p. 384.

Thurston, Azor, asserts that spirit of peppermint should polarize -15.9° V. in a 200 mm. tube at 25° C.—Merek's Report, N. Y., 1907, v. 16, p. 124.

OLEUM MENTHÆ VIRIDIS.

Henderson, H. John, reports the characteristics of two samples of English oil of spearmint. The oil distilled in 1906 had a specific gravity of 0.931 and was soluble in its own volume of 90 per cent alcohol. The angle of rotation in 100 mm. tube was -50° at temperature of room 21.5° C. The oil distilled in 1907 had a specific gravity of 0.927 and was soluble in its own volume of 90 per cent alcohol. The angle of rotation in a 100 mm. tube was -50° at temperature of room 20° C.—*Pharm. J. Lond.*, 1907, v. 25, p. 506.

OLEUM MORRHUÆ.

Koch, Felix J., presents a story of the cod-liver oil and records some impressions he obtained in a visit to Newfoundland.—*Merck's Report*, N. Y., 1907, pp. 340-341.

An editorial calls attention to the cod-liver prospects, and asserts that up to March 4 the total yield of 3,903 barrels of Norwegian cod-liver oil has been poor compared with 12,172 barrels in 1906.—*Pharm. J. Lond.*, 1907, v. 24, p. 322.

Gehe & Co. (*Handels-Bericht*, 1907, pp. 38-39) discuss the production of cod-liver oil and give the production for 1906 from all Norwegian fisheries as being approximately 42,908 hectoliters, against 41,807 during the year 1905.

An editorial discusses the economic conditions relating to the cod fisheries and cod-liver oil, and gives figures showing the amount of oil produced from 1900 to 1907, inclusive.—*Chem. & Drug. Lond.*, 1907, v. 70, p. 448.

Bousfield, W., reviews the economic conditions prevailing with Norwegian cod-liver oil and presents a table showing the total amounts of medicinal cod-liver oil made in the Lofoten Islands for the past twenty-one years.—*Ibid.*, v. 70, pp. 206-207.

Halphen, G., discusses the method for the analysis of fish oils described by Procter and Bennett, and points out several faults.—*Bull. de la Soc. de chim. de France, Par.*, 1907, v. 1, p. 280.

Henseval and Huwart (from *d. Ap. Ztg.*) report a number of experiments with fish liver oils and present a table in which they record the color, acid number, saponification number, iodine number, ether number, and the amount of unsaponifiable residue. They also call attention to some of the more characteristic properties of these several oils.—*D. A. Apoth. Ztg. N. Y.*, 1907, v. 28, p. 89.

An editorial acknowledges the receipt of a specimen of dugong oil, which is said to be used as a substitute for cod-liver oil in Queensland, having a more agreeable taste and being quite equal to cod-liver oil in nutritive properties.—*Lancet, Lond.*, 1907, v. 173, p. 1101.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, pp. 17-18) report 40 specimens of cod-liver oil submitted for examination, 7 of which have been adversely reported upon. Two of these possessed a poor odor, so they merely took the refractive figures for the sake of curiosity. These were +36 and +34.5, showing seal oil to be the probable adulterant. They also received samples, assured to be genuine, having specific gravities from 0.930 to 0.932 and refractive figures from +49 to +51.

Baird, J. W. (com. on adulterations), reports on 10 samples, 9 genuine, 1 adulterated.—Proc. Massachusetts Pharm. Ass., 1907, p. 40.

Caspari, Chas. E., (com. on adulterations) examined 15 samples, 12 satisfactory, 3 contained other fish oils.—Proc. Missouri Pharm. Ass., 1907, p. 144.

An abstract (from Bull. Comm., 1907, 35, 428) gives the following formula for a palatable cod-liver oil preparation: Cod-liver oil, 120; malt extract, 30; syrup of calcium hydrophosphite, 30; powdered gum acacia, 15; glycerin, 15; cinnamon water, *q. s.* to make 250 by weight.—Pharm. J. Lond., 1907, v. 25, p. 675.

An editorial points out that the medicinal value of cod-liver oils was known centuries ago among the inhabitants of northern Europe. Medicinal cod-liver oil is prepared chiefly on the coast of Norway, and to a limited extent in Newfoundland, United States, and Japan. The preference given to the Norwegian oil is due to the favorable conditions under which the cod fisheries are there prosecuted.—Pacific Pharm., San Francisco, 1907-1908, v. 1, p. 426.

Jamieson, W. Allan, states that cod-liver oil is the only internal agent which is of any assistance in the treatment of ichthyosis. Pilocarpine is useless.—Brit. M. J., 1907, v. 1, p. 364.

Leonard, H. C., asserts that cod-liver oil should be used as an inunction if used at all, as it will do more harm than good when given by the stomach, because it interferes with the digestion and the appetite.—Tr. Am. Inst. Homœop., 1907, 63d session, p. 504.

OLEUM MYRISTICÆ.

Brandel, I. W., quotes the official requirements for oil of mace of the U. S. P. VIII, and Ph. Austr. VIII.—Pharm. Rev. Milwaukee, 1907, v. 25, p. 59.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, 102) point out that the corrections of the U. S. P. up to June 1, 1907, require that oil of nutmeg have a specific gravity of from 0.884 to 0.924 at 25° C., and that the requirement of rotation has been left out.

Hoogenboom, F., (Pharm. Weekblad.; through Pharm. Journ., 1906, v. 77, p. 517) discusses the Ph. Ndl. requirements for oil of nutmeg and asserts that they appear to be inaccurate. He finds that about one-half of pure oil of nutmeg distills at 164° to 175° C., about

one-fourth between 179° and 198° C., and the remainder at a temperature rising to 235° C.—Analyst, London, 1907, v. 32, p. 28.

Power and Salway report upon the constituents of the essential oil of nutmeg.—J. Chem. Soc., Lond., 1907, v. 91, pp. 2037–2058.

Richter, Oscar, discusses the constitution and derivatives of myristicin, a constituent of oil of mace.—Ber. d. pharm. Gesellsch. Berl., 1907, v. 17, pp. 152–161.

OLEUM OLIVÆ.

Butman, Arthur B., discusses the cultivation of the olive and the production of oil.—Brit. & Col. Drug., Lond., 1907, v. 52, p. 240.

An editorial discusses the pamphlet published by the Los Angeles Olive Growers' Association, which discusses the adulteration of olive oil and asserts that in Europe cotton-seed oil is largely mixed with the olives as they are being crushed.—Oil, Paint and Drug Reporter, New York, 1907, v. 72, November 4, p. 7.

Gehe & Co. (Handels-Bericht, 1907, pp. 40–41) point out that the olive oil produced in 1906 will be materially less in quantity than the oil produced the previous year. They point out that this, owing to the unusually large crop of olives in Italy, was to have been expected.

H. M., consul at Genoa, reports that the annual production of Italian olive oil shows great fluctuations, owing partly to the alternation of full and meager years' crops and partly to the ravages of the oil fly. The production during the five years, 1901–2 to 1905–6, is estimated as follows: 1901–2, 3,200,000 hectoliters; 1902–3, 1,800,000 hl.; 1903–4, 3,200,000 hl.; 1904–5, 1,700,000 hl.; and 1905–6, 3,400,000 hl. The most prized qualities are those produced in Tuscany (Lucca, Pisa), the Ligurian Riviera, and the Pugli (Bari, Bitonto, Gallipoli).—Chem. & Drug., Lond., 1907, v. 71, p. 702.

Consul D. I. Murphy, writing from Bordeaux, reviews the olive trade of the Mediterranean countries, as well as cultural methods employed in olive groves.—Oil, Paint and Drug Reporter, New York, 1907, v. 72, December 2, p. 28D.

Consul-General B. H. Ridgely, of Barcelona, reports that owing to the abnormally high prices at which olive oil is being sold this year it has been found that some dealers have resorted to the practice of adulterating olive oil with linseed or sesame oil.—Oil, Paint and Drug Reporter, New York, 1907, v. 72, July 15, p. 22.

A news note points out that the sale of olive oil constitutes a large item of revenue to California. At the present time it is estimated that a large part of the oil used in the United States is produced in California.—*Ibid.*, v. 71, June 3, p. 41.

A report from Consul E. L. Harris, at Smyrna, includes a table giving the production of olive oil in Smyrna during the past ten

years. The production in 1906 was 15,000 tons. Four thousand five hundred tons were used for comestible purposes and the production of soap, the remainder being exported to England, Russia, the United States, and Sweden.—*Ibid.*, v. 72, September 30, p. 10.

An unsigned article discussing the adulteration of olive oil in Spain says that the adulteration of oil is a generally accepted fact. "The oleaginous plants used by merchants to obtain greater gain are very numerous. They mix the poppy, colewort, or wild cabbage, benne seed, peanut and cotton-seed oils with the light, clear, and transparent oil of the olive.—*Ibid.*, v. 71, Jan. 28, p. 28D.

Pollatschek, P. (Rev. Fett-Harz-Ind., 14, 4-5), reports his investigation on several samples of olive oil which came from the island of Mallorca.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 1065.

An unsigned article outlines the method of purifying olive oil in Tunis.—Nat. Druggist, St. Louis, 1907, v. 37, p. 133.

Archbutt, L., presents some observations on Tunisian and Algerian olive oils. Some of the samples of oil gave abnormal analytical results, the most noticeable being the presence of arachidic and lignoceric acids, somewhat low saponification values, and unusually large percentages of unsaponifiable matter. He gives the results of analysis of 9 samples in the form of a table.—J. Soc. Chem. Ind., Lond., 1907, v. 26, p. 453, 455.

Marcille, R., presents a note on the iodine index of olive oils and the variations of the index in Tunisian oils.—Ann. de chim. analyt. Par., 1907, v. 12, pp. 188-191.

Ryan and Marshall discuss the influence of oxygen and of nitrogen and sunlight and darkness on olive oil as affecting the iodine and saponification numbers and the production of rancidity. They conclude that the influence of oxygen is to decrease the iodine number and at the same time to increase the saponification number. It causes the oil to become rancid and lose its color. Under the influence no change is caused in the iodine number, but in the sterilized oil there is an increase in the saponification number.—Am. J. Pharm., Phila., 1907, v. 79, pp. 308-315.

Droste reports experiments to determine the reliability of the distinguishing tests for olive oil, and the readiness with which olive oil was affected by light and other factors. His results with light and mould confirm the generally accepted statements. Oxygen and moderate heat he believes have but slight influence on pure olive oil. He calls particular attention to the variability of the iodine solutions used for determining the iodine number and the great variability of the resulting color produced by alcoholic furfural and hydrochloric acid.—Apoth. Ztg., Berl., 1907, v. 22, pp. 589-590, 598-600.

Thurston, Azor, asserts that olive oil is slightly dextrogyrate.—Merck's Report, N. Y., 1907, v. 16, p. 124.

Passerini, N., (Stez. Sper. Agric. Ital.; J. Pharm. Chim.) has found 0.0005 per cent of Cu in olive oil derived from trees which had not been treated with any copper insecticide. This amount of the metal is considered to be a normal constituent of the oil.—Year Book of Pharmacy, Lond., 1907, p. 116.

Bachman, Gustav, (com. on adulterations) reports olive oil ranging from 83.9 per cent to 72.7 per cent of iodine value in place of 80 to 88 as directed in the U. S. P.—Proc. Minnesota Pharm. Ass., 1907, p. 41.

Gausby, R. A., reports one sample of olive oil containing cotton-seed oil.—Proc. Pennsylvania Pharm. Ass., 1907, p. 78.

Hankey, William T., asserts that olive oil is frequently found containing cotton-seed oil; peanut oil is sometimes found in the better grades.—*Ibid.*, 1907, p. 72.

The Mass. Board of Health found 8 samples deficient: One contained 80 per cent sesame oil, one 40 per cent sesame oil, one 40 per cent cotton-seed oil, one all cotton-seed oil.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 328.

Caspari, Chas. E., (com. on adulterations) examined 15 samples, 13 satisfactory; 2 contained sesame oil.—Proc. Missouri Pharm. Ass., 1907, p. 144.

Baird, J. W., (com. on adulterations) reports on 35 samples, 30 genuine, 5 adulterated.—Proc. Massachusetts Pharm. Ass., 1907, p. 40.

Lythgoe, Hermann C., reports but one poor sample of olive oil out of 120 samples collected and examined during the year. The one adulterated sample contained 80 per cent of cotton-seed oil. He gives the ratio of adulteration from 0.87 in 1907 to 31 per cent in 1903.—Rep. Massachusetts Bd. Health, 1907, 1908, p. 381.

Gilmour, J. P., found a sample of olive oil probably adulterated with cotton-seed oil. The oil was said to be of Levantine origin.—Pharm. J. Lond., 1907, v. 25, p. 110.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 34) report four samples, offered as genuine, but which were obviously sophisticated, assaying a specific gravity from 0.9125 to 0.920; refractive figure from +2 to +12; free acid from 3.2 to 11.9. Two contained cotton-seed oil and two gave an iodine value of 71.6 and 85.4, and one a saponification value of 158.1. Three samples of green olive oil gave 18.63, 16, and 27 per cent free oleic acid, respectively.

OLEUM PIMENTÆ.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, p. 102) note that the corrections of the U. S. P. up to June 1, 1907, require that pimenta oil have a specific gravity of from 1.028 to 1.048 at 25° C.

OLEUM RICINI.

Ebert, Felix, calls attention to the work that has been done on *Ricinus communis*, L., and gives a table showing the variations in size and color of seeds of different origin and the uses of the drug in China.—Ztschr. d. allg. österr. Apoth.-Ver., Wien, 1907, v. 45, p. 541.

Haller, A., finds that by heating castor oil with methyl alcohol he can isolate and characterize, in the form of ether salts of saturated alcohols, the several acids entering into the constitution of this oil.—Compt. rend., Acad. d. sc., Par., 1907, v. 144, pp. 462-466.

Lane, N. J.. (J. Soc. Chem. Ind., 26, 597) describes a method for the determination of castor oil in mixtures.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 2398.

Bachman, Gustav, (com. on adulterations) reports castor oil ranging from an iodine value of 80.2 per cent to 67.8 per cent in place of 86 to 89 per cent required by the U. S. P.—Proc. Minnesota Pharm. Ass., 1907, p. 41.

Baird, J. W.. (com. on adulterations) reports on 18 samples, 17 genuine, 1 adulterated.—Proc. Massachusetts Pharm. Ass., 1907, p. 40.

The inspectors of pharmacies found much castor oil that had been expressed with heat.—Ann. de pharm., Louvain, 1907, v. 13, p. 278.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 15) examined 10 samples of English grade (first pressure) which contained from 0.4 to 0.49 per cent of free oleic acid; 5 English second pressure from 10 to 14 per cent; 50 Calcutta (good seconds) from 0.6 to 2.1 per cent; 3 Italian (Pharmacy) from 0.5 to 0.6 per cent; 3 French (Pharmacy) from 0.4 to 0.5 per cent of free oleic acid. Two samples were mixtures of castor and mineral oils and a third called "compound," apparently contained lard oil.

Bourdier, L., experimenting with emulsions of castor oil concludes that gum tragacanth, lime water, casein, and medicinal soap permit the rapid obtaining of an emulsion. The preparations made with gum tragacanth or soap are, moreover, capable of preservation. Gum tragacanth permits the obtaining of a concentration of 1 to 3 and soap a concentration of 80 per cent.—J. de pharm. et de chim. Par., 1907, v. 26, pp. 201-205.

Wilbert, M. I., presents a formula for a 50 per cent emulsion of castor oil, using soap as the emulsifier and spirit of peppermint as the flavoring.—Am. J. Pharm., Phila., 1907, v. 79, p. 524.

Winternitz (Pharm. Zeit., 1907, 52, 363) gives the following method for the preparation of dried castor oil; the casein from 1 liter of skimmed milk is pressed until it contains not more than 70 per cent of water. To this 5 mls of caustic soda solution (10 per cent) is added, together with 40 gm. of lactose and 80 gm. of castor oil. The

brown mixture is then dried *in vacuo*.—Pharm. J. Lond., 1907, v. 25, p. 74.

A method of converting castor oil into a dry powder has recently been perfected by Wasserzug, of Frankfort. An emulsion of the oil is made with gum arabic and to this is added an equal quantity of magnesia. The water is then evaporated and the resulting hard mass ground up into a fine powder or the magnesia mixed with water, the oil added and the mixture then evaporated. A fine powder is obtained by these proceedings which is not fatty and possesses all of the oil itself. (Notes on New Remedies.)—Pharm. Era., N. Y., 1907, v. 37, p. 470.

Hommell, P. E., thinks that a formula for a tasteless and transparent castor oil preparation should be included in the U. S. P.—Proc. New Jersey Pharm. Ass., 1907, p. 63.

The editor of the "Therapeutics" column discusses available forms of castor oil. He thinks that the capsules are too large for children to swallow, and states that it may be administered by floating it on coffee, and in other ways.—J. Am. M. Ass., 1907, v. 49, p. 1617.

OLEUM ROSÆ.

Brandel, I. W., points out that oil of rose was discovered by the Arabs, and gives the official requirements of the U. S. P. VIII, and the Ph. Austr. VIII.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 63.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, 78-80) review several communications concerning the cultivation of roses and experiments made on the extraction of oil, which have appeared in recent numbers of "La Vie à la Campagne" (1907, 414) and "La Revue de Grasse" (1907, Nos. 13, 16, and 17).—Proc. Am. Pharm. Ass., 1908, v. 56, p. 337.

An article (Chem. and Drug., 70, 1907, 815) asserts that the inhabitants of Eastern Trans-Caucasus have commenced the cultivation of a semi-double strongly smelling rose of Persian origin. The cultivation of the rose in various districts of the Trans-Caucasus is mentioned.

Gehe & Co. (Handels-Bericht, 1907, p. 41) discuss the available reports from the rose-oil districts of Bulgaria which were unusually favorable. They point out that there is a steady increase in the area of the rose plantations in Bulgaria.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, p. 78) report that the development of rose bushes in Bulgaria was retarded by the cold weather and point out the natural increase of price due to the shortage of the crop.

An editorial discusses the economic condition prevailing in Bulgaria and the prospective rose crop which it is feared has been

damaged by the severe weather that has been experienced.—Pharm. J., Lond., 1907, v. 24, p. 619.

Parry, Ernest J., asserts that otto of rose is being very heavily adulterated this season. He asserts that some skilled chemist has prepared a geraniol mixture having a specific gravity of 0.875 and a refractive index of under 1.4700, and this mixture is now being used as an adulterant for oil of rose.—Chem. & Drug., Lond., 1907, v. 71, p. 475.

Gane, E. H., quotes E. J. Parry as asserting that all of the oil of rose exported contains an admixture of geraniol. Fifteen samples guaranteed as pure were all sophisticated.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 320.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, pp. 39, 40) give the tabulated figures of 7 lots of Bulgarian otto guaranteed by the makers to be absolutely genuine, and summarize as follows: Specific gravity, 0.8535 to 0.8578 (30° C.); optical rotation, $-2^{\circ} 20'$ to -4° ; refractive index, 1.46 to 1.4644. Of 8 samples submitted adulteration was probable in 3.

Schimmel & Co. (Semi-Ann. Rep., April, 1907, pp. 86-89) call attention to the fact that more rose oil was exported from Bulgaria in 1898, 1899, and 1903 than was produced—clear proof of adulteration. Tables are given showing the production in the various districts of Bulgaria in 1898, 1899, 1903, and 1904, also tables showing the export to the various countries from 1890 to 1905, inclusive.

OLEUM ROSMARINI.

Brandel, I. W., reports on an oil of rosemary from Tunis and gives the official requirements of the U. S. P. VIII, Ph. Austr. VIII, and the Ph. Hisp. VII.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 154.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, p. 102) note that the corrections of the U. S. P. up to June 1, 1907, require that rosemary oil should have an ester-content (bornyl acetate) at least 2.5 per cent; total borneol at least 10 per cent.

Henderson, H. John, discusses the optical rotation of oil of rosemary, reviews the literature on the subject and reports the examination of samples of oil having laevorotatory properties.—Pharm. J. Lond., 1907, v. 25, p. 599. (See also *Ibid.*, p. 695).

Schimmel & Co. (Semi-Ann. Rep., April, 1907, p. 90; also October, 1907, p. 81) point out that French rosemary oil is deserving of attention and also call attention to the adulteration that is practiced in the Dalmatian variety of this oil.

Hankey, William T., reports on 12 samples of oil of rosemary which represented only the best obtainable; none met the require-

ments as regards amount of bornyl acetate and borneol. The lowest amount of bornyl acetate observed was 2.25 per cent and the highest amount 6.1 per cent. The refractive index ranged from 1.4663 to 1.4707.—*Am. Druggist*, N. Y., 1907, v. 50, p. 8.

Gausby, R. A., points out that rosemary oil of U. S. P. quality is very difficult to procure.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 77.

Gane, E. H., gives a table showing the results of his examination on 6 samples of oil of rosemary. The samples varied in specific gravity from 0.894 to 0.906. Optical rotation from -1 to $+23.5$. Bornyl acetate from 1.7 to 5.5 per cent. Total borneol from 10 to 15.4 per cent. One was not soluble in 10 volumes 80 per cent alcohol, two were soluble in 2 volumes 80 per cent alcohol, one was not soluble and two were soluble in 20 volumes 80 per cent alcohol.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 329.

Patch, E. L., examined 4 samples varying in specific gravity from 0.900 to 0.9072. Bornyl acetate from 1.21 per cent to 6.33 per cent and total borneol from 8.88 per cent to 12.47 per cent. 2 had a rotation of $+9.3$ and $+3$. The first 10 cc. of the distillate from one sample had a rotation of -1.6 , which is contrary to standard.—*Ibid.*, v. 55, p. 329.

OLEUM SABINÆ.

Hesselbo, A., presents a morphologic-anatomic examination of *Juniperus sabina* and other species of *Juniperus* with illustrations.—*Arch. f. Pharm., og. chem.* Copenhagen, 1907, v. 14, pp. 85–100.

Rodié, J. (Rev. gén. chim., 9, 444; 10, 18), describes the botanical characteristics of the four species, savin, Phœnician juniper, common juniper, and cade, from which these oils are derived, and presents a summary of the more important contributions to the literature of the oils.—*Chem. Abstr. Am. Chem. Soc.*, 1907, v. 1, p. 1042.

Perrot (Rép. de Pharm., 1907, No. 9) asserts that savin tops are in France almost completely substituted by the tops of *Juniperus phœnicea*, the activity of which is materially inferior to that of the genuine drug.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 174.

Rodié, J., contributes a study of the chemical composition of the oil of *Juniperus phœnicea*.—*Bull. de la Soc. de chim. de France, Par.*, 1907, v. 1, pp. 492–497.

Blome, Walter H. (com. on adulterations), reports examining one sample that required 4 volumes of 90 per cent alcohol to effect solution, and had a specific gravity of 0.8564, instead of 0.903 to 0.923.—*Proc. Michigan Pharm. Ass.*, 1907, p. 70.

Caspari, Chas. E. (com. on adulterations), examined 3 samples, all contained turpentine.—*Proc. Missouri Pharm. Ass.*, 1907, p. 147.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 41) examined 3 samples having a specific gravity of 0.927, 0.920, and

0.926; optical rotation $+49^{\circ} 30'$, $+43^{\circ}$, and $+42^{\circ} 38'$, respectively. All were soluble in one-fourth volume of 90 per cent alcohol.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, 89) announce that they have recently detected "citronellol" in a fraction of oil of savin boiling higher than sabinol—this fraction boiling at 78° to 94° C. (4 mm. pressure and at ordinary pressure, between 220° and 237° C.).

Kondo, H., reports an examination of the oil of *Juniperus chinensis* and concludes that the cedrol of this oil is identical with the cedrol of *J. virginiana*. The empiric formula and the chemical behavior of the cedren of the two oils are identical, while their physical properties, specific gravity, optical rotation, etc., are quite different.—J. Pharm. Soc., Japan, 1907, pp. 230–236, 372.

OLEUM SANTALI.

Brandel, I. W., reviews the literature of 1905, bearing on oil of sandalwood, and gives the pharmacopœial requirements included in the U. S. P. VIII, and the Ph. Austr. VIII.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 58.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, p. 102) point out that the U. S. P. corrections up to June 1, 1907, require that sandalwood oil have a specific gravity of from 0.965 to 0.980. They also note (*Ibid.*, p. 104) the following requirements for sandalwood oil in the new Ph. Dan.: Fairly viscid; light yellow to yellow; specific gravity from 0.975 to 0.980 at 15° C.; at 20° C. soluble in 5 volumes dilute alcohol; the solution must also remain clear if more alcohol is added. They suggest that the upper limit of value of the specific gravity is too low; it should be 0.985.

Also (*Ibid.*, April, 1907, p. 109) assert that the proposed Ph. Brit. requirements for the santalol content in sandalwood oil is not justified. In the case of good oils it is not below 90 per cent calculated for the formula $C_{15}H_{24}O$.

Löhr, H., (Chem. Ztg., 31, 1040) reports the following constants for sandalwood oil of authentic purity: Specific gravity, 0.972; optical rotation, -19.25° . Sandalwood oil content, 96 per cent; dissolves clear in 4 parts 70 per cent alcohol.—Chem. Abstr. Am. Chem. Soc., 1908, v. 2, p. 691.

Semmler, F. W., reports experiments to determine the nature of the sesquiterpenes in oil of sandalwood.—Ber. d. deutsch. Chem. Gesellsch. 1907, v. 40, III, pp. 3321–3324.

Parry and Bennett record some experiments made with two samples of sandalwood oil which they have reason to consider has been skillfully adulterated with so-called West Indian sandal oil.—Chem. & Drug., Lond., 1907, v. 69, pp. 19–20.

Dohme and Englehardt call attention to the statement of Schimmel & Co. that santal oil should have an optical rotation from 16° to 20° . They assert that they have distilled many lots of East Indian sandalwood oil and claim that the optical activity of from 16° to 20° , as given in the U. S. P., is not a criterion of the value of santal oil.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 380.

Bush & Co., W. J., communicate the results obtained in the examination of santal oil distilled by them from 16 parcels of genuine East Indian sandalwood.—Chem. & Drug., Lond., 1907, v. 69, p. 448.

Bernegau, Henry, found two samples of oil of sandalwood which had an optical rotation of -10.5 and -11.2 , respectively. Both assayed 91 per cent of santalol.—Am. J. Pharm. Phila., 1907, v. 79, p. 555.

Perrot, E., calls attention to the frequent and surprising adulterations of santal.—Bull. d. sc. pharmacol. Par., 1907, v. 14, p. 350.

Blome, Walter H., (com. on adulterations) reports that a few samples have traces of chlorinated products. All assayed over 90 per cent of santalol, some consisting almost entirely of that substance.—Proc. Michigan Pharm. Ass., 1907, p. 70.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, pp. 40, 41) report on 40 samples of santalwood oil, mainly of their own manufacture, which were found to fall between these limits: Specific gravity, 0.975 to 0.980; optical rotation, $-14^{\circ} 18'$ to $-22^{\circ} 16'$; 91.5 to 96.4 per cent total santalol. The majority were soluble in 6 volumes of 70 per cent alcohol, or less, although they noticed that a slight amount of heat was sometimes necessary to produce a clear solution. The B. P. C., following the recommendation of the revision committee, suggests 94 per cent of santalol as a normal content of a good oil.

An unsigned article points out that the essential oil distilled from so-called African sandalwood is not the product of *Santalum album* and it is probable that the plant from which it is obtained does not even belong to the *Santalaceae* at all; the name is merely a "courtesy title." The oil has a specific gravity of 0.959; optical rotation, -40.6° ; acid value, 1.7; saponification value, 17.9; and acetyl-saponification value, 88.3.—Chem. & Drug. Lond., 1907, v. 70, p. 228.

OLEUM SASSAFRAS.

Brandel, I. W., gives the pharmacopœial constants for sassafras oil included in the U. S. P. VIII, and the Ph. Austr. VIII.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 61.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, p. 102) note that in the corrections of the U. S. P. up to June 1, 1907, the special requirements of solubility of sassafras oil no longer exist.

Caspari, Chas. E. (com. on adulterations), examined 11 samples, 8 satisfactory; 3 low in specific gravity.—Proc. Missouri Pharm. Ass., 1907, p. 142.

Evans Sons Lescher and Webb (Analytical Notes, 1907–1908, p. 41) examined 6 samples ranging from 1.072 to 1.082 in specific gravity; from $1^{\circ} 40'$ to 3° optical rotation and were soluble in $3\frac{1}{2}$ volumes of 90 per cent alcohol.

OLEUM SINAPIS VOLATILE.

Brandel, I. W., gives the requirements for oil of mustard as they appear in the U. S. P. VIII, and the Ph. Austr. VIII.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 62.

Pleijel, C. (Farmac, Revy, 1907, p. 204), outlines a modification of the assay methods, proposed by Gadamer and by Dietrich, for allylthiocyanate in volatile oil of mustard. The essential features of this modification differ from the U. S. P. method in heating the mixture of oil and reagents for three hours at a temperature of from 45 to 50° C. in place of allowing the mixture to stand for 24 hours and then heating to 80° C. for half an hour.—Jahresb. d. Pharm. Göttingen, 1907–1908, v. 42, p. 209.

Schimmel & Co. (Semi-Ann. Rep., April, 1907, p. 71) call attention to a communication by Pomeranz, who endeavors to explain the rearrangement which must be assumed to occur in the formation of allyl cyanide.

Patch, E. L., reports the examination of a specimen of oil of mustard which contained 93.48 per cent of allyl-iso-thiocyanate.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 328.

OLEUM THEOBROMATIS.

Gilmour, J. P., found the average melting point of 9 samples higher than the Ph. Brit. requirements, due to the presence of foreign fats.—Pharm. J. Lond., 1907, v. 25, p. 109.

Perrot, E., calls attention to the numerous adulterants of cacao butter.—Bull. d. sc. pharmacol. Par., 1907, v. 14, p. 350.

Wauters, J., (Bull. Soc. Chimiq. de Belgique, v. 21, pp. 240–242) discusses the recognition of substitutes for cacao butter added to chocolate and presents a table giving the constants of expressed and of extracted cacao butter and of cacao butter substitutes.—Jahresb. ii. Tier Chem. Wiesb., 1907, v. 37, p. 69.

OLEUM TEREBINTHINÆ.

Brandel, I. W., reviews some of the recent literature on oil of turpentine, particularly American oil of turpentine and turpentine oil from Venetian turpentine.—Pharm. Rev., Milwaukee, 1907, v. 25, pp. 296–298.

An editorial calls attention to an indictment against the quality of the oil of turpentine on the market drawn up by the pharmacists of Georgia.—*Am. Druggist*, N. Y., 1907, v. 50, p. 218.

A news item discusses the future of the turpentine industry in the United States, and calls attention to an improved method for collecting turpentine.—*Pharm. J. Lond.*, 1907, v. 25, p. 197.

An unsigned article discusses the development of the turpentine industry in east Texas.—*Paint, Oil and Drug Rev.*, Chicago, 1907, v. 44, August 28, p. 8.

Teeple, J. E., discusses the production of a turpentine from waste wood.—*J. Soc. Chem. Ind.*, Lond., 1907, v. 26, pp. 811–812. (See also *Sc. Am. Suppl.*, N. Y., 1907, v. 64, pp. 194–195.)

Schimmel & Co. (Semi-Ann. Rep., April, 1907, pp. 97–101) discuss the production of oil of turpentine in India, also call attention to an examination of Japanese turpentine (from *Pinus thunbergii*) and some additional work on pitch and terpenes from the Norway pine and the Douglas fir.

For additional comments on turpentine oil, see *Ibid.*, October, 1907, pp. 92–96.

An abstract from the *Grocer* points out that oil of turpentine evidences an extraordinarily wide divergence in prices as current on the London market.—*Pharm. J. Lond.*, 1907, v. 25, p. 625.

Flath, W., (*Farben Ztg.*, 1907, v. 13, p. 78) discusses the various adulterants that are being used for oil of turpentine and their detection.—*Chem. Repert. Cöthen.*, 1907, v. 31, p. 564.

Herzfeld, H., discusses oil of turpentine and turpentine substitutes and the various methods that are or may be used for differentiating between them.—*Ztschr. f. öffentl. Chem.*, 1907, v. 13, pp. 432–436.

An abstract calls attention to some of the substitutes for oil of turpentine that are being marketed at the present time and points out that in the majority of cases these substitutes contain no turpentine oil at all, but are mixtures of well-graduated and selected fractions of petroleum, water, gas-tar or coal-tar hydrocarbons, having approximately the same specific gravity and boiling point as the real oil. Rosin spirit also enters largely into the composition of some turpentine substitutes.—*Pharm. J. Lond.*, 1907, v. 24, p. 46.

Thurston, Azor, asserts that the American oil of turpentine obtained from *Pinus palustris* and the English oil of turpentine from *Pinus australis* are dextrorotatory. He records a number of observations and also gives the variation of optical rotation evidenced by German and Russian oils which are levorotatory.—*Merck's Report*, N. Y., 1907, v. 16, p. 124.

Vézes and Mouline (*Procès-Verbaux des Séances de la Soc. des sc. phys. et nat. de Bordeaux*) report the results of their studies on the

mutual solubility of oil of turpentine and dilute alcohol.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 2530.

McGill, A., discusses the examination of turpentine, and concludes: (1) The Hübl method is preferable to the Hanus method when working with oil of turpentine. (2) The Worstall number (370 per cent) is correct for turpentine, when Hübl solution is used, as specified. (3) With the Hanus method and solution the number 200 may be accepted as indicating genuine turpentine. (4) Turpentines containing ordinary adulterants give numbers lower than 370 (Hübl) or 200 (Hanus). (5) The specific refraction for genuine turpentine, at 20° C., is nearly 1.47. (6) Ordinary adulterants reduce the specific refraction. (7) Decidedly more characteristic numbers, both in refraction and in iodine absorption, are obtained by work on fractions of 25 per cent volume. (8) The iodine number, specific refraction, and temperature of distillation for fraction of 25 per cent volume suffice to distinguish between genuine turpentine and the adulterated article as now found on the market.—J. Soc. Chem. Ind. Lond., 1907, v. 26, pp. 847-848.

Fischer, Richard, found a sample of oil of turpentine which contained 75 per cent of kerosene oil.—Proc. Wisconsin Pharm. Ass., 1907, p. 34.

Gausby, R. A., reports that none of the samples of turpentine examined were adulterated, but all ran considerably below U. S. P. specific gravity. The average specific gravity of the turpentine in the market is about 0.885 at 25° C.—Proc. Pennsylvania Pharm. Ass., 1907, p. 78.

Gilmour, J. P., points out that ordinary commercial oil of turpentine is too often supplied for medicinal purposes, and suggests that rectified oil only be used.—Pharm. J. Lond., 1907, v. 25, p. 110.

Péju, G., presents a brief note on the bactericidal action of oil of turpentine.—Compt. rend. Soc. de biol. Par., 1907, v. 62, p. 955.

Williams, J. H., (Charlotte, N. C., M. J., 1907, xxxi, 127-130) discusses the therapeutic uses of turpentine. Reference from Index Medicus, 1907, v. 5, p. 1040.

Coltart, Guy H., reports a case of severe poisoning from the fumes of turpentine, with recovery on being removed from the room which had been newly painted.—Lancet, Lond., 1907, v. 172, p. 1014.

OLEUM THYMI.

Brandel, I. W., calls attention to some recent investigations of oil of thyme, and presents the official requirements in the U. S. P. VIII, and the Ph. Hisp. VII.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 181.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, p. 102) note that the corrections of the U. S. P. up to June 1, 1907, permit that thyme oil be colorless or reddish.

Rodié, M., presents a table and a chart giving analytical results of a study of various samples of Spanish oil of thyme.—Bull. de la Soc. de chim. de France, Par., 1907, v. 1, pp. 236-239.

Schindelmeizer, J., (Apoth. Ztg., xxii, 1907, No. 79, 853) obtained from French oil of thyme, after prolonged standing, a crystalline deposit having a faint thyme odor, which disappeared completely after crystallization from hot water, in which it was freely soluble, while in cold water the crystals were sparingly soluble.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 343.

Mitchell, Edward, asserts that oil of red thyme is universally supplied for so-called pure origanum.—Proc. Arkansas Pharm. Ass., 1907, p. 90.

Gausby, R. A., reports one lot of red thyme oil containing turpentine and assaying only 14.5 per cent of phenols. All other lots examined were pure, ranging from 22 to 27 per cent of phenols.—Proc. Pennsylvania Pharm. Ass., 1907, p. 77.

Bernegau, Henry, reports a sample of oil of thyme which complied with the U. S. P. requirements for solubility, specific gravity, and phenol content but had an optical rotation of +9.5 in place of being slightly levogyrate.—Am. J. Pharm., Phila., 1907, v. 79, p. 554.

Gausby, R. A., reports samples containing turpentine and assaying below 20 per cent phenols.—Proc. Pennsylvania Pharm. Ass., 1907, p. 77.

Gane, E. H., examined a specimen which had a specific gravity of 0.8687, rotation—17; phenols, 10 per cent; not soluble in 10 volumes of 80 per cent alcohol. Contained turpentine.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 329.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 45) found the phenol content of seven samples, estimated by the potash method, to be 15, 16, 18, 20, 23, 30, and 58 per cent. Some French oils by the best makers only contain 15 or 16 per cent of phenols.

OLEUM TIGLII.

Ebert, Felix, in discussing the fruits and seeds used as medicines in China calls attention to the Chinese names and uses of *Croton tiglium*, L.—Ztschr. d. allg. österr. Apoth.-Ver., Wien, 1907, v. 45, p. 541.

Hankey, William T., reports that for several years croton oil has shown a uniformly higher iodine absorption than the required 102 to 105, usually ranging from 108 to 110. These results were obtained by the official method for determining iodine absorption. He much prefers Wijs' method for routine work, as results are obtained within one-half to one hour's time. The latter method gives uniformly higher results than the U. S. P. method.—Am. Druggist, N. Y., 1907, v. 50, p. 8.

Norris, Richard C., is reported to have said that he regarded elimination by the bowels as of prime importance in the treatment of eclampsia and that he had yet to see a woman die of eclampsia after he had secured from 12 to 20 stools in twenty-four hours. He uses Epsom salt, and if this is vomited from 3 to 5 drops of croton oil are given in sweet oil.—N. York M. J., 1907, v. 85, p. 765.

OPIUM.

Greenish, Henry G., points out that the international agreement requires the opium to be dried at 60° C. and standardized to 10 per cent of morphine. The Ph. Austr., Ph. Belg., Ph. Ndl., and Ph. Hisp. comply with this requirement, but the U. S. P. retains a standard of 12 to 12.5 per cent of morphine in opium dried at 85° C. He thinks it would have been very simple for the U. S. P. to have adopted the international standard for powdered opium, and so completed the uniformity for this important drug.—Pharm. J. Lond., 1907, v. 24, p. 832.

Bührer, C., points out that with the single exception of the U. S. P. all of the newer pharmacopœias require an uniform standard of 10 per cent of morphine for powdered opium. The U. S. P. also requires from 1.2 to 1.25 per cent of morphine in tincture of opium in place of 1 per cent specified in the international protocol.—Schweiz. Wehnschr. f. Chem. u. Pharm. Zürich, 1907, v. 45, p. 419.

Nelson, Burt E., discusses the origin of opium, the appearance of the powder, the cellular elements contained in the drug, and the possible differentiation between the several kinds of opium.—Merck's Report, N. Y., 1907, v. 16, p. 220.

Kline, C. M., presents some notes on opium from the commercial standpoint, and reviews the several varieties of opium under main geographical headings. Thus he considers: Turkey opium, Persian opium, Egyptian opium, and India opium.—Am. J. Pharm., Phila., 1907, v. 79, pp. 156-160.

Gehe & Co. (Handels-Bericht, 1907, p. 43) discuss the market conditions relating to opium, note the increased consumption of the drug, and call attention to the decree recently issued by the Chinese Government for the suppression of the opium trade.

Consul E. L. Harris reports that the average crop of opium in Asia Minor is 6,000 baskets of 60 okes each, making a total of 450 tons; but so much depends upon the temperature prevailing after the crops are planted in October that the production often rises as high as 10,000 baskets and, on the other hand, occasionally falls as low as 4,000.—Oil, Paint and Drug Reporter, New York, 1907, v. 72, July 1, p. 26.

An editorial discusses the economic conditions prevailing in regard to opium, and presents statistics of the number of cases of the drug produced and the highest and lowest price during the years from 1870 to 1907.—Meyer Bros. Drug., St. Louis, 1907, v. 28, p. 320.

Thoms, H., reports on the cultivation of the opium poppy and the production of opium at Dahlen, near Berlin. He reviews some of the experiments that have been made in countries outside of Asia in the production of opium and records his own experiments at some length.—Ber. d. Pharm. Gesellsch., Berl., 1907, v. 17, pp. 4-60.

An editorial discusses the records of the cultivation of opium by one John Ball, who in 1795 received from the Society of Arts the sum of 50 guineas for a description of his method of preparing opium from poppies grown in England, and compares them with the records of the work done by Professor H. Thoms, at the Berlin University Pharmaceutical Institute.—Chem. & Drug., Lond., 1907, v. 70, pp. 261-262.

An unsigned article (reprinted from the Scientific American) reviews the opium industry, and points out that up to the twelfth century Asia Minor was the only source of supply.—Pharm. J. Lond., 1907, v. 24, pp. 692-693.

Malin-Punkalaidun, Allan, reports on the examination of ripe, and unripe poppy capsules to determine their alkaloid content. He found from 0.02 to 0.05 per cent of morphine in unripe capsules and 0.018 per cent of the same alkaloid in the ripe capsule. The narcotine-codeine content varied from 0.0113 per cent in the unripe capsule to 0.0280 per cent in the ripe capsule.—Ber. d. pharm. Gesellsch., Berl., 1907, v. 17, pp. 60-61.

A news note reports that the poppy work done in connection with the Bureau of Plant Industry has not made the desired progress.—Oil, Paint and Drug Reporter, N. Y., 1907, v. 71, March, 25, p. 25.

An editorial discusses the possibility of cultivating a poppy in India which will yield an opium containing a higher percentage of morphine.—Pharm. J. Lond., 1907, v. 24, p. 426.

Michael, W. H., in a consular report gives some interesting particulars in regard to the cultivation of opium in India.—*Ibid.*, v. 25, pp. 335-336.

An editorial comments on the production and use of Indian opium and points out that all of the Indian opium which comes to London is transshipped to the West Indies and other parts, where Asiatics want it for smoking purposes. It is not used here either for medicinal or manufacturing purposes.—Chem. & Drug., Lond., 1907, v. 70, p. 935.

Greenish, H. G., points out that while the Ph. Brit. authorities might wish to retain Indian opium for Indian use, it was desirable to restrict Great Britain to the use of Turkey opium and let Indian

pharmacists use their own opium. The vast difference in the two drugs would indicate that they should not be used indiscriminately.—Pharm. J. Lond., 1907, v. 24, p. 172.

Puckner, W. A., reviews the literature of 1906 relating to the assay of opium.—Pharm. Rev., Milwaukee, 1907, v. 25, pp. 328–330.

Kwisda, A., reviews the advances that have been made in the chemistry of the opium alkaloids during the year 1906.—Pharm. Post, Wien, 1907, v. 40, p. 153.

Parker, C. E., discusses the assay of opium and outlines a method of assay in which lead subacetate is used to precipitate coloring matter and extractive.—Proc. Am. Pharm. Ass., 1907, v. 55, pp. 490, 497.

The method for the analysis of opium as outlined by the Association of Official Agricultural Chemists describes in detail the method to be used in the determination of morphine.—Bull. Bur. Chem., U. S. Dept. Agric., 1907, No. 107, pp. 201–202.

Dott, D. B., discusses the processes for opium assay that are included in the Ph. Brit. and in the U. S. P. He points out that one of the reasons why results with moist, lump opium are not so constant is due to the difficulty of securing representative samples. Pharm. J. Lond., 1907, v. 24, p. 78.

Farr and Wright report experiments on the assay of opium, the loss of morphine, and the correction for opium extractive dissolved; also the loss of water in drying, the amount of impurity in crude morphine, and the determination of alkaloids other than morphine.—*Ibid.*, v. 24, pp. 164–169.

Dott, D. B., discusses the paper by Farr and Wright on the assay of opium for the purpose of bringing out more distinctly some points that have not been called attention to by himself or by Farr and Wright.—*Ibid.*, v. 24, pp. 356–357.

Caesar and Loretz (Geschäfts Ber., 1907, pp. 39–42) assert that the assay of opium is by no means perfected to such a degree that any one method can be considered as being above criticism. They discuss the modified Helfenberg method, and suggest several modifications. Also outline (*ibid.*, 1907, pp. 97–98) their assay process for opium, and point out the requirements made for this drug by the several pharmacopœias.

Tickle, Thomas, describes a new process for the morphimetric assay of opium, the essential point of which consists in the employment of metacresol as a solvent of the alkaloid.—Pharm. J. Lond., 1907, v. 24, pp. 162–164.

Wöhlk, Alfred, describes and figures a flask to be used in the determination of morphine in opium.—Arch. f. Pharm. og. Chem. Copenhagen, 1907, v. 14, p. 302.

Abel Scholar thinks the use of tared filter-papers for weighing is very objectionable, as anyone can prove who cares to make the experi-

ment. Filter-papers can easily be obtained which do not yield any "fluff" to gentle brushing with camel-hair brushes, and the precipitated morphine could be transferred to a tared dish and dried in a more orthodox way.—*Chem. & Drug.*, Lond., 1907, v. 70, p. 349.

Reichard, C., discusses the reactions of narcotine.—*Pharm. Zentralh.*, 1907, v. 48, pp. 44–51.

Also reviews and discusses the characteristic reactions of papaverine.—*Ibid.*, v. 48, pp. 288–290, 313–315, 334–336.

Zimmermann, Albert, outlines a method for determining the codeine content of opium, which depends on the ready solubility of codeine in water as compared with the other alkaloids contained in the opium. The method as outlined is adapted to be used in connection with the morphine assay. Smyrna opium seldom contains more than 0.5 per cent of codeine. Salonica opium is richer, yielding from 0.5 to 1 per cent.—*Oil, Paint and Drug Reporter*, New York, v. 72, Dec. 30, p. 52.

van der Harst, J. C., reports on a sample of opium that could not be assayed because of the formation of a permanent emulsion with ether.—*Pharm. Weekbl.*, 1907, v. 44, p. 1506.

Philipp Röder (*Jahresbericht*, Wien, 1907, p. 97) reports a sample of opium which contained 13.67 per cent of ash; this was rejected. Six additional samples varied from 11.60 to 13.60 per cent of morphine.

Gausby, R. A., reports one sample of nice-appearing gum which was found to be heavily loaded with lead slugs. In spite of this fact, a tincture made from it assayed considerably over standard.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 76.

Vanderkleed, Charles E., reports 8 assays of gum opium ranging from 10.00 to 15.740 per cent. Quality very good.—*Ibid.*, 1907, p. 90.

The inspectors of pharmacies assert that the assay of opium varies considerably, and that much of the available drug has been manipulated.—*Ann. de pharm. Louvain*, 1907, v. 13, p. 279.

Mossler, Gustav, examined 8 samples of opium, the morphine content of which varied from 6.7 per cent to 13.84 per cent.—*Ztschr. d. allg. österr. Apoth. Ver.*, Wien, 1907, v. 45, p. 38.

Evans Sons Lescher and Webb (*Analytical Notes*, 1907, 1908, p. 35) examined 15 parcels of opium which ranged from 10 to 12.5 per cent of morphine content on the raw opium as received.

Blome, Walter H., (com. on adulterations) reports that powdered opium sometimes assays a little high.—*Proc. Michigan Pharm. Ass.*, 1907, p. 70.

Bachman, Gustav, (com. on adulterations) reports powdered opium assaying 11.78 per cent of morphine in place of 12 to 12.5 per cent required by the U. S. P.—*Proc. Minnesota Pharm. Ass.*, 1907, p. 41.

Martin, A., reports experiments with an abnormal extract of opium that did not yield to the pharmacopœial method for the assay of opium, and which on further investigation was found to contain a resinous substance.—*J. de pharm. d'Anvers*, 1907, v. 63, pp. 241–242.

Crouzel, Ed., discusses the variability of extract of opium, and urges a greater uniformity.—*Répert. de pharm. Par.*, 1907, v. 19, p. 489.

Yvon, M. P., discusses the official French preparations of opium and reviews the changes that have been made in the formulas for the several preparations in the Codex.—*Bull. Soc. de pharm. de Bordeaux*, 1907, v. 47, pp. 275–285. (See also *J. de pharm. et de chim. Par.*, 1907, v. 26, pp. 337–347.)

Benfield thinks that melted paraffin yields a much more thoroughly deodorized tincture of opium, and that the process is much more convenient than the official process of shaking with petroleum benzin.—*Bull. Am. Pharm. Ass., Chicago*, 1907, v. 2, p. 121.

Greenish, Henry G., points out that the International Agreement standardizes tincture of opium to 1 per cent of morphine. The U. S. P. is the only one which fails to comply, and still requires 1.25 per cent of morphine.—*Pharm. J. Lond.*, 1907, v. 24, p. 832.

Amos, W. S., outlines a quick and efficient method for the preparation of tincture of opium. He heats the water to the temperature directed in the U. S. P. and adds two ounces of paper pulp to the hot water, and agitates the mixture until the pulp is thoroughly disintegrated. To this mixture he adds the powdered opium and proceeds as directed in the U. S. P.—*Proc. Kansas Pharm. Ass.*, 1907, p. 42.

Sayre, L. E., reports on two assays of tincture of opium which contained 0.108 and 0.1935 per cent of morphine, respectively.—*Bull. Kansas Bd. Health*, 1907, p. 10.

Niece, Frederic E., outlines and describes a color reaction which he suggests for testing the identity of tincture of opium.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 483.

Baird, J. W., (com. on adulterations) reports 4 samples, 2 genuine, 2 adulterated.—*Proc. Massachusetts Pharm. Ass.*, 1907, p. 40.

Spindler reports that but one of 14 samples of tincture of opium examined contained more than the minimum of morphine required by the Ph. Germ. IV.—*Suedd. Apoth. Ztg.*, 1907, v. 47, p. 50.

Stansfield, J. M., asks of what earthly use is the glycerin in camphorated tincture of opium.—*Proc. Florida Pharm. Ass.*, 1907, p. 9.

Greenish, Henry G., points out that the international agreement requires that "*Opium et Ipecacuanhæ Pulvis*" contain 10 per cent of powdered opium. All the pharmacopœias agree, but the powdered opium of the U. S. P. is 20 per cent stronger than that of the others.—*Pharm. J., Lond.*, 1907, v. 24, p. 832.

Holmes, E. M., describes and figures a plant, *Combretum sundaicum* Mig., to which allusion has been made as a reputed remedy for the opium habit.—*Ibid.*, v. 24, p. 77. (See also *Ibid.*, v. 25, pp. 358–359.)

Wray, L., presents some additional information on the antiopium remedy derived from *Combretum sundaicum*, the method for its preparation, and the exact method of use.—*Ibid.*, v. 24, p. 453.

Hooper, David, discusses the probable origin of the antiopium leaf and points out that some years ago a preparation of the bark of *Cinchona succirubra* was sold as a remedy for inebriation, and that it is interesting to notice that another plant of the same order is now being put forward as a cure for a similar evil, the opium habit.—*Ibid.*, v. 24, p. 453.

Weichardt and Stadlinger find that there is an albumin splitting antibody of the character of a fatigue toxin, recognized as well by its biologic action as by a specific antibody, which is found not only in the animal but in the vegetable kingdom—for example, as a constituent of opium. This can be prepared pure after the previous removal of the alkaloids and by dialysis. A part of the complex action of opium may be traced to the presence of this antibody.—*Biochem. Ztschr.*, Berl., 1907, v. 3, pp. 431–438.

Zemp, E. R., discusses the absorption and elimination of some commonly used drugs, and calls attention to the necessity of knowing how absorption and elimination take place, but he states that many drugs in common use are not understood in this particular. He discusses opium, cocaine, digitalis, nitroglycerin, belladonna, chloral, and iodoform.—*J. Am. M. Ass.*, 1907, v. 49, pp. 1349–1352.

Wiley, H. W., said, in discussing the physician's connection with the proprietary remedies, the saddest thing of all is the connection of the medical profession with so-called opium, morphine, and liquor habit cures. Instead of trying to help the unfortunates, the purpose seems to be to fasten the habit more firmly upon the victims.—*Ibid.*, v. 49, p. 1586.

Guernsey, Joseph C., asserts that opium in potentized form is one of the best remedies in the homœopathic materia medica for chronic constipation. He has used it so successfully for that condition that it is almost always the first curative agent that comes to his mind when treating constipation. He asserts that it should be given insistently and persistently in all cases of old, stubborn, seemingly incurable cases of constipation before resorting to palliatives or patent medicines.—*Hahnemann. Month.*, Phila., 1907, v. 42, p. 60.

A number of references on the varied uses of opium will be found in the *Index Medicus* and the *J. Am. M. Ass.*

PANCREATINUM.

Koch, F. C., discusses the U. S. P. assay process for pancreatin and points out a number of details in the manipulation that should be closely observed if correlating results are to be obtained.—*Proc. Am. Pharm., Ass.*, 1907, v. 55, pp. 373-374.

Francis, J. M., asserts that the U. S. P. test for pancreatin can be "jockeyed" and that the results depend largely on the amount and strength of the nitric acid used and are further influenced by the nature and kind of milk employed. The starch test is also considered to be unsatisfactory.—*Ibid.*, v. 55, pp. 374-375.

Delezenne, C., (*Comptes-rend.*, 1907, 144, 388) reports additional investigations on the influence of calcium salts on pancreatic digestion, and asserts that when the pancreatic ferment has once acquired the active trypsin-like power, the presence of the lime salt is no longer essential, and that after the entire removal of the calcium salts the ferment still retains its power of digesting albumin and gelatin.—*Pharm. J. Lond.*, 1907, v. 24, p. 433.

Sollmann, Torald, calls attention to the absurdity of mixtures of the digestive ferments in which one is certain to destroy the other, as in the elixir digestivum of the National Formulary. The effects of the various digestive ferments are tabulated.—*J. Am. M. Ass.*, 1907, v. 48, pp. 415-416, 521-522.

A report to the Council on Pharmacy and Chemistry summarizes the results of the examination of a number of proprietary mixtures of digestive enzymes.—*Ibid.*, v. 48, pp. 434-435.

An editorial discusses the report of the council, just referred to, under the title "Monstrosities in combinations of digestive ferments," and states that the fact that such preparations are on the market is a reflection on those who make them as well as on those who use them.—*Ibid.*, v. 48, pp. 423-424.

Metcalf, B. F., expresses amazement and disgust that an eminent practitioner should have prescribed lactopeptine and takadiastase for his infant, after the recent exposure by the Council on Pharmacy and Chemistry.—*Ibid.*, v. 48, p. 1794.

An abstract from the Medical Press and Circular comments on the claims of Beard as the discoverer of the use of trypsin in the treatment of cancer, and points out that so far trypsin has failed to fulfill the claims that have been advanced in its favor, and its usefulness has not been confirmed by the cancer research fund.—*Pharm. J. Lond.*, 1907, v. 24, p. 65.

Graves, William P., is reported to have said that he used trypsin in 6 cases of recurrent cancer. Four of these patients died and the others will die, but the treatment helps to prolong life and to keep the nodules under control.—*J. Am. M. Ass.*, 1907, v. 49, p. 1950.

Cleaves, M. A., (Med. Rec. N. Y., June 1) discusses the physiologic action of the pancreatic enzymes, used hypodermatically directly into the growth, by rectum or by mouth. The amylopsin controls the poisonous symptoms caused by the trypsin. The growth is sometimes absorbed.—*Ibid.*, v. 48, p. 2075.

Additional references on the use of pancreatin and the enzymes contained therein will be found in the Index Medicus and the J. Am. M. Ass.

PARAFFINUM.

Gilmour, J. P., reports 2 out of 13 samples of paraffinum durum below Ph. Brit. standards; melting point 59° C.—Year Book of Pharmacy, Lond., 1907, pp. 446-455.

Wilder, W. H., stated that paraffin is often useful in distending the lachrymal sac preliminary to operation.—J. Am. M. Ass., 1907, v. 49, p. 165.

Davis, A. E., protests against the use of paraffin injections near the eye and cites experiences in two cases in support of his contention.—*Ibid.*, v. 49, pp. 215-218.

An editorial calls attention to a source of possible danger in paraffin prosthesis which had been overlooked until Heidingsfeld reported such an occurrence; this consists in the development of connective tissue resulting from the long-continued slight irritation from the paraffin.—*Ibid.*, v. 48, p. 1682.

Harris, M. L., calls attention to the unsatisfactory results following the injection of paraffin for the relief of inguinal hernia, and reports four cases where he has been called on to operate on patients who had been treated by others with paraffin injections.—*Ibid.*, v. 49, p. 1352.

Additional references on the use of paraffin will be found in the Index Medicus and the J. Am. M. Ass.

PASTÆ DERMATOLOGICÆ N. F.

Runge observes that the fats directed in Unna's formulas for "pastes" must be only such as are benzoinated with benzoin—not with benzoic acid as directed by the Ph. Germ. IV. The incorporation of such substances as Kieselgur (Terra Silicea), etc., is best effected in an ointment mill or by the aid of a rolling machine. Trituration in a mortar will produce a satisfactory product only at the expense of much labor and time.—Pharm. Ztg., lii, 1907, No. 53, 555.

PEPSINUM.

Koch, F. C., discusses the U. S. P. methods for assaying pepsin and pancreatin and proposes several changes in the technique.—Proc. Am. Pharm. Ass., 1907, v. 55, pp. 372-374.

Sato, S., reports a study of the action of anilin coloring matter upon diastase and pepsin.—*J. Pharm. Soc., Japan*, 1907, p. 1132.

Cowie and Dickson report some further work on the assay of pepsin by the biuret reaction and conclude that this method is preferable because it is a measure of the actual peptonizing power, as distinct from the solvent action of pepsin. The method gives comparable results, can be carried out in a short time, and requires no special apparatus.—*Pharm. J., Lond.*, 1907, v. 24, pp. 198-199.

Tankard, Arnold R., discusses a recent paper by Cowie and Dickson on the assay of pepsin. He thinks that as a pharmaceutical test-process the method proposed is not sufficiently simple, and that it possesses little, if any, advantage in this respect over that devised by Allen.—*Chem. & Drug. Lond.*, 1907, v. 70, p. 349.

Fuld and Levison discuss the estimation of pepsin by the edestin test, a method based upon one first proposed by Jacoby, which was dependent upon the clearing up of a turbid ricin solution by means of pepsin-hydrochloric acid.—*Biochem. Ztschr. Berl.*, 1907, v. 6, pp. 473-501.

Küttner, S., (*Chem. Lab. Inst., Exp. Med. St. Petersburg, Z. physiol. Chem.* 52, 63-90) states that Vollhard's method for pepsin estimation is to digest casein hydrochloride with the solution and estimate the digestive action through the amount of HCl liberated.—*Chem. Abstr. Am. Chem. Soc.*, 1907, v. 1, p. 2900.

Mossler, Gustav, reports that he examined 6 samples of pepsin and found 2 which did not comply with the official test for digesting qualities.—*Ztschr. d. allg. österr. Apoth. Ver., Wien*, 1907, v. 45, p. 38.

Blome, Walter H., (com. on adulterations) reports the examination of a sample of pepsin which was claimed to test 1:10,000, but which actually tested 1:7,000.—*Proc. Michigan Pharm. Ass.*, 1907, p. 70.

Evans Sons Lescher and Webb (*Analytical Notes*, 1907, 1908, p. 37) report 3 samples of "scale" pepsin which failed to answer the *Ph. Brit.* albumin test.

Seoville, W. L., (*Drugg. Circ.*, April, 1907, 294) says that the angelica wine in essence of pepsin should not be fortified, but should be as low in alcohol as possible, to insure an active preparation. Ten per cent of alcohol in the finished preparation is better than 15, because the pepsin will be more active.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 668.

Simms, G. G. C., points out that the presence of hydrochloric acid of greater strength than 0.5 per cent inhibits and rapidly destroys the proteolytic activity of pepsin, and that at least three preparations of the National Formulary contain upward of 1 per cent of hydrochloric acid in solution.—*Am. Druggist, N. Y.*, 1907, v. 50, p. 198.

A report of the Council on Pharmacy and Chemistry states that "Lactopeptine" (powder) contains somewhat less than 10 per cent of official pepsin, and no trace of diastase or pancreatin.—*J. Am. M. Ass.*, 1907, v. 48, p. 959.

Miller, Charles H., reports on the examination of lactopeptine, confirming that of the Council on Pharmacy and Chemistry just cited.—*Ibid.*, v. 48, p. 1047.

An editorial in discussing the prescribing of the digestive ferments in combination controverts the frequently held opinion that a mixture of pepsin, pancreatin, and hydrochloric acid tends to decompose, and expresses the belief that practical therapeutics is very often thrown into confusion and pushed backward into the darkness by faulty, hasty, inconclusive, or misinterpreted laboratory experiments.—*Critic and Guide*, New York, 1907, v. 9, May, pp. 14-16.

Sailer and Farr discuss the natural and artificial inhibition of peptic digestion, and conclude that albumin and some of the sugars inhibit the action of pepsin, but they do not play an important rôle in gastric digestion. Certain antiseptics are also discussed.—*Am. J. M. Sc.*, Phila., 1907, v. 133, pp. 113-127.

Additional references on the use of pepsin will be found in the *Index Medicus* and the *J. Am. M. Ass.*

PETROLATUM.

Remington, Joseph P., reports that under the article petrolatum, p. 336 U. S. P., last paragraph, the sulphuric acid test has been dropped.—*Am. J. Pharm.*, Phila., 1907, v. 79, p. 135.

Dulière, W., (*Journ. de Pharm. d'Anvers*, 1907, No. 16) finds the requirement of the Ph. Belg. that neither the vaseline nor the concentrated sulphuric acid shall be appreciably browned when equal quantities are heated in a clean test glass for 10 minutes in a steam bath, is too stringent and is not fulfilled by any commercial qualities of vaseline which have been examined. The corresponding tests of the Ph. Helv. and the Ph. Ndl. prescribe sulphuric acid of 60 per cent and 80 per cent, respectively, and these he considers the more practical strength under commercial conditions.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 306.

Troxell, H. L., (com. on adulterations) found several samples with a lower specific gravity than the U. S. P. requires.—*Proc. Maryland Pharm. Ass.*, 1907, p. 87.

PETROLATUM LIQUIDUM.

Gilmour, J. P., examined 9 samples of liquid paraffin and found 4 samples containing organic matter or excess of acid.—*Pharm. J. Lond.*, 1907, v. 25, p. 109.

PHENOL.

Murray, B. L., discusses the U. S. P. requirements for phenol and asserts that the boiling point, solubility in water, solubility in glycerin and water, and titration constitute a set of tests somewhat remarkable in their nature. He discusses the several requirements at some length.—Merck's Report, N. Y., 1907, v. 16, pp. 63-64. (See also *ibid.*, p. 248.)

Obermiller, Jul., discusses the literature and reports some additional experiments to determine the action of sulphuric acid on phenol.—Ber. d. deutsch. chem. Gesellsch., 1907, v. 40, III, pp. 3623-3647.

Raschig, F., discusses the ferric chloride reaction of phenol and reviews the history of phenol.—Ztschr. f. ang. Chem., Berl., 1907, v. 20, p. 2065.

Kahn, Joseph, outlines several tests to differentiate phenol from creosote, cresol, and related compounds.—Proc. New York Pharm. Ass., 1907, p. 241.

Klose, G., found it impracticable to determine the phenol dissolved in *adeps lanæ*, but he believes it to be dissolved in appreciable quantities.—Arch. internat. de Pharmacod. et de Thérap., 1907, v. 17, p. 463.

Seel, Eugen, describes double salts of phenol and meta- and para-cresol that have been prepared and some of which are being marketed as disinfectants under trade names.—Pharm. Ztg., Berl., 1907, v. 52, pp. 662-663.

Chapman, David Simeon, discusses phenol and related compounds and calls attention to the proportions of the several constituents present in the different compounds.—Proc. North Carolina Pharm. Ass., 1907, p. 69.

Bachman, Gustav, (com. on adulterations) reports phenol ranging from 90 per cent to 87.6 per cent, instead of 96 per cent as required by the U. S. P. These samples were red in color with slight appearance of liquefaction.—Proc. Minnesota Pharm. Ass., 1907, p. 41.

Kline and Graham assert that they have not been able to find a sample with a congealing point from 40° to 42° C., the highest being 39° C.—Proc. Pennsylvania Pharm. Ass., 1907, p. 83.

Hamerton, James, asserts that the present carbolic acid ointment of the Ph. Brit. is objectionable because of its strength and inconsistency and the separation of globules that takes place when the ointment is kept. He gives a formula containing 4 parts by weight of phenol and 2 parts by weight of camphor, which he considers to be an improvement over that now official.—Pharm. J. Lond., 1907, v. 24, p. 55.

An editorial calls attention to the report of Wynter Blyth on the standardization of disinfectants based on the carbolic acid coefficient which consists in a comparison of the disinfectant power of the article with that of phenol.—*Brit. M. J.*, 1907, v. 1, p. 98.

Sollmann and Brown review the literature relating to the use of the sulphates in the treatment of phenol poisoning and conclude from their experiments that the injection of sulphates does not influence the acute phenol poisoning appreciably.—*J. Am. M. Ass.*, 1907, v. 48, pp. 1015-1019.

Wallace, David, records nine cases of carbolic acid gangrene.—*Brit. M. J.*, 1907, v. 1, p. 1110.

Watkins says that carbolic acid not being the exclusive product of any chemical manufactory, nor a specialty of a proprietary firm, has not received the extravagant praises for its virtues that are conferred upon many antiseptics far inferior in effectiveness.—*Eclectic M. J.*, Cincin., 1907, v. 67, p. 267.

Church comments on the return to favor of carbolic, due, he intimates, to its use as a saturated solution in ethyl alcohol instead of water.—*Ibid.*, p. 376.

PENOLPHTHALEIN.

An unsigned article gives an outline history of the introduction of phenolphthalein as a laxative and asserts that its use originated from the consumption of wine in Austria-Hungary, which had been denatured by the addition of this article.—*Brit. & Col. Drug.*, Lond., 1907, v. 52, p. 190.

Schweitzer, Hugo, gives an account of the discovery of the laxative properties of phenolphthalein.—*Am. Druggist*, N. Y., 1907, v. 50, p. 194.

Meyer and Hantzsch discuss the color formations of phenolphthalein and of its esters.—*Ber. d. deutsch. chem. Gesellsch.*, 1907, v. 40, III, pp. 3479-3488.

An answer to a correspondent presents several formulas for phenolphthalein laxative compounds in various forms.—*Am. Druggist*, N. Y., 1907, v. 50, p. 361.

The editor of the Therapeutics column calls attention to the use of phenolphthalein as a purgative under a variety of names, and states that it has no other known physiological action than that of a purgative.—*J. Am. M. Ass.*, 1907, v. 48, p. 1133.

PHENYLIS SALICYLAS.

Seidell, Atherton, contributes a paper on the solubility of salol.—*J. Am. Chem. Soc.*, 1907, v. 29, pp. 1088-1091.

Blome, Walter H. (com. on adulterations), reports several lots of salol below standard in color and odor. Some of them developed an

objectionable odor on standing.—Proc. Michigan Pharm. Ass., 1907, p. 70.

The inspectors of pharmacies assert that salol is frequently changed by sulphates, chlorides, or free salicylic acid.—Ann. de pharm., Louvain, 1907, v. 13, p. 329.

Hugenschmidt, A. C., thinks salol should never be used in tooth powders, as he has observed several cases of eczema of the lips which he traced thereto.—Dental Cosmos, Phila., 1907, v. 49, p. 471.

Carle and Pont (Rev. Odontol. Par., Feb., 1907), have collected 5 cases of perilabial eczema due to the same cause.—*Ibid.*, p. 472.

Davis, N. S., asserts that salol and salophen are only useful in mild cases of rheumatism, for they can not be given safely in sufficiently large doses to control severer ones.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1907, p. 114.

PHOSPHORUS.

Stose, George W., reviews some of the history of phosphorus and its manufacture in the United States.—Chem. Eng., 1907, v. 6, pp. 206–211.

Llewellyn, William G., finds that white phosphorus may be obtained by distilling yellow phosphorus in a current of ammonia gas.—Chem. News, Lond., 1907, v. 96, p. 296.

Lusk, Graham, presents a study on the metabolism in phosphorus poisoning.—Am. J. Physiol., Bost., 1907, v. 19, pp. 461–467.

Flamini, Mario, discusses the action of phosphorus on the metabolism of calcium in normal and rachitic children.—Arch. farmacol. sper. Roma, 1907, v. 6, pp. 653–663.

Clark, B. J., points out that while phosphorus is recognized as a homœopathic remedy for rachitis it is seldom necessary except in cases of early bronchial trouble.—Tr. Am. Inst., Homœop., 1907, 63d session, p. 476.

Blackwood, A. L., points out that phosphorus is indicated where the child is restless, fidgety, can not sit or stand still a moment.—*Ibid.*, 1907, p. 486.

PHYSOSTIGMA.

Windhaus and Hauth (Med. Dept. Univ. Lab., Freiburg i. B. Ber. 39, pp. 4378–4384) report experiments on Calabar beans and describes a new phytosterol which they termed *stigmasterol*.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 1002.

Patch, E. L., found calabar bean extract with U. S. P. alkaloidal strength. It may be pasty, not in powder; dependent upon the amount of fixed oil present. No provision is made for its removal.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 324.

PHYSOSTIGMINÆ SALICYLAS.

Winterberg, Heinrich, reports experiments to determine the action of physostigmine on the heart of warm-blooded animals and presents his conclusions.—*Ztschr. f. exper. Path. u. Therap.*, 1907, v. 4, pp. 636–657.

Unger, Moritz (*Pflügers Archiv*, v. 119, pp. 373–403), presents a study of the action of atropine and physostigmine on the intestine of the cat.—*Jahresb. ii. Tier Chem., Wiesb.*, 1907, v. 37, p. 777.

Posey, William Campbell, asserts that the best myotics for the purpose are eserine salicylate (physostigmine salicylate) and pilocarpine nitrate.—*J. Am. M. Ass.*, 1907, v. 48, pp. 676–680.

Koontz, F. L., states that physostigmine salicylate hypodermically is by far the most potent remedy we have at present for the treatment of adynamic ileus.—*N. York. M. J.*, 1907, v. 86, p. 597.

Additional references on the use of physostigmine will be found in the *Index Medicus* and the *J. Am. M. Ass.*

PHYTOLACCA.

Henkel, Alice, describes and figures *Phytolacca decandra* L., commonly known as poke, pigeon berry, garget, scoke, pocan, coakum, Virginian poke, inkberry, red inkberry, American nightshade, cancer-jalap, and redweed.—*Bul. Bur. Plant Ind., U. S. Dept. Agric.*, 1907, No. 107, pp. 29–30.

Holm, Theo., describes and figures *Phytolacca decandra* L.; also describes the microscopical structure of several portions of the plant.—*Merck's Report*, N. Y., 1907, v. 16, p. 312.

An unsigned article quotes Stevens, Caldwell, and three manufacturers as giving the percentage of alcohol in the official fluid extract of pokeroor as 48.9, 48, 45, 55, and 40 per cent, respectively.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 319.

PILOCARPINÆ HYDROCHLORIDUM.

Riedel's *Berichte* (Berlin, 1907, p. 66) discusses the production of pilocarpine picrate and the possibility of using the melting point of this compound as a test for identifying the alkaloid.

Thurston, Azor, asserts that pilocarpine nitrate is dextrogyrate in aqueous or alcoholic solutions.—*Merck's Report*, N. Y., 1907, v. 16, p. 124.

Reichard, C., discusses the properties and the characteristic reactions of pilocarpine.—*Pharm. Zentralh.*, 1907, v. 48, pp. 417–424.

Patch, E. L., states that the distinctive test with hydrogen dioxide and potassium dichromate has been pronounced unsatisfactory.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 329.

Langrand, A., reports on pilocarpine hydrochloride adulterated to the extent of 25 per cent with sulphonal.—*J. de pharm. et de chim., Par.*, 1907, v. 26, pp. 97–99.

Southall's Report (1907, 27) notes that not one specimen of this salt has been met with melting point at 176° – 178° C. Out of 12 samples the best melted at 170° C., another possessing a melting point as low as 158° C.—*Year Book of Pharmacy, Lond.*, 1907, p. 127.

Zeri, Agenore, discusses the cholagogue action of pilocarpine, giving the protocols of his experiments on two patients.—*Arch. farmacol. sper. Roma*, 1907, v. 6, pp. 35–56.

Robinson, W. J., discusses the use of pilocarpine as an adjuvant in the treatment of syphilis. He concludes that pilocarpine is a most remarkable glandular eliminant, and glandular elimination is one of the most important factors in the successful treatment of syphilis.—*Med. Rev., N. Y.*, 1907, v. 71, pp. 988–989.

Additional references on the use of pilocarpine will be found in the *Index Medicus* and the *J. Am. M. Ass.*

PILOCARPUS.

Puckner, W. A., calls attention to several communications on the assay of pilocarpus appearing in the literature of 1906.—*Pharm. Rev., Milwaukee*, 1907, v. 25, p. 330.

Matthes and Rammstedt discuss the estimation of pilocarpine by means of picrolonic acid. The results are slightly higher than the corresponding results of assays made by G. Fromme.—*Arch. d. Pharm.*, 1907, v. 245, p. 131.

Cæsar and Loretz (*Geschäfts Ber.*, 1907, p. 93) discuss the assay of pilocarpus and suggest the desirability of determining the moisture content of the drug as well as the pilocarpine content.

Perrot, E., notes that there are two commercial varieties of jaborandi; *P. microphyllus*, very active, to which are added the leaves of an exotic legumen, *Swartzia decipiens*; in certain samples he has found 30 per cent of the leaves of this plant.—*Bull. d. sc. pharmacol. Par.*, 1907, v. 14, p. 348.

Gane, E. H., examined two samples of the black jaborandi assaying 0.108 and 0.05 per cent alkaloids.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 326.

Vanderkleed, Charles E., reports four assays of jaborandi leaf ranging from 0.240 to 1.140 per cent alkaloids. He points out that the quality varies greatly.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 89.

Dodge, J. D., discusses the physiological action and therapeutic applications of jaborandi.—*Eclectic M. J. Cincin.*, 1907, v. 67, pp. 127–133.

PILULÆ.

Beringer, George M., points out that the N. F. introductory notes to the section on pills do not correspond with the product or the practices of manufacturers.—*Am. J. Pharm.*, Phila., 1907, v. 79, p. 361.

Brown, J. F., recommends the use of a mixture of equal weights of glycerin of tragacanth and manna beaten together as an excipient for metallic and insoluble salts, and asserts that it is free from the excessive elasticity of the former when used alone.—*Pharm. J. Lond.*, 1907, v. 25, p. 373.

Carles, M. P., (*Répert. de Pharm.*, 1907, p. 348) discusses the use of manna as an excipient for pills.—*Schweiz. Wehnschr. f. Chem. u. Pharm.*, Zürich, 1907, v. 45, p. 553.

For a discussion of pill excipients see *Répert. de pharm.*, Par. 1907, v. 19. Astruc and Cambe, p. 111; Carles, P., p. 348; Manseau, pp. 440-441. Carles, p. 492.

An unsigned article discusses the extemporaneous making of pills, presents some guiding principles, and discusses the excipient to be used; also outlines some rules to be observed.—*Pharm. J. Lond.*, 1907, v. 24, pp. 746-747, 804-805, 834-835.

Rieben, Ernst, discusses the disintegration of pills in the gastrointestinal canal, and records a number of experiments with pills of varying composition, using potassium iodide as the active ingredient.—*Arch. d. Pharm.*, 1907, v. 245, pp. 502-517.

Runge, Paul, discusses the preparation of keratin-coated pills.—*Pharm. Ztg.*, 1907, v. 52, p. 555.

PILULÆ ANTIMONII COMPOSITÆ U. S. P., 1890.

Sawyer, J., discusses the report of the committee of reference in pharmacy to the General Medical Council on the Ph. Brit. and points out that the recommendation to omit the castor oil in Plummer's pill is not a desirable one in that it would leave alcohol as the only liquid excipient remaining in the mixture.—*Pharm. J. Lond.*, 1907, v. 24, pp. 3-4.

Brown, Alcock, and Ashton comment on the criticisms made by Sawyer in regard to the proposed omission of castor oil from the compound pill of antimony.—*Ibid.*, v. 24, p. 48.

PILULÆ ANTINEURALGICÆ N. F.

Caldwell, Paul, says that each Gross' antineuralgic pill contains one-twentieth grain of morphine sulphate.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 205.

Also points out that each Brown-Sequard's antineuralgic pill contains one-half grain of extract of opium and one-fourth grain of extract of cannabis indica.—*Ibid.*, v. 51, p. 205.

PILULÆ FERRI CARBONATIS.

Hirschfeld, Hans, in discussing the treatment of anæmia points out that the untoward results that have been observed in connection with the pills of carbonate of iron are to be traced to the readiness with which these pills are decomposed. He insists that these pills should always be directed freshly prepared.—Therap. d. Gegenw., Berl., 1907, v. 48, p. 79.

Baird, J. W., (com. on adulterations) reports 1 sample adulterated.—Proc. Massachusetts Pharm. Ass., 1907, p. 40.

PILULÆ OPII ET CAMPHORÆ.

Caldwell, Paul, points out that each pill of opium and camphor contains 1 grain of powdered opium.—Drug. Circ., N. Y., 1907, v. 51, p. 205.

PILULÆ OPII ET PLUMBI.

Caldwell, Paul, points out that each pill of opium and lead contains 1 grain of powdered opium.—Drug. Circ., N. Y., 1907, v. 51, p. 205.

PIPER.

Härtel and Weil discuss the examination and the valuation of pepper, and present a number of general conclusions on the factors indicating the value of pepper.—Ztschr. f. Unters. d. Nahr. u. Genussm., 1907; v. 14, pp. 567–579.

Fincke, H., reports that determinations of pure cellulose, lignin, and cutin of pepper show that not half of the so-called crude fiber of the substances examined consists of cellulose.—*Ibid.*, v. 13, pp. 265–266.

Surie, J. S., reports an examination of samples of adulterated pepper, microscopically and chemically. One sample contained as much as 11.7 per cent of ash, in place of 5 per cent the maximum ash of good black pepper.—Pharm. Weekbl., 1907, v. 44, pp. 447–448.

Judd, Albert F., found the ash in 10 samples of powdered black pepper to vary from 6.3 to 12.9 per cent.—Proc. Pennsylvania Pharm. Ass., 1907, p. 260.

Philipp Röder (Jahresbericht, Wien, 1907, p. 74) reports that 9 samples of pepper examined varied from 3.41 to 6.26 per cent of ash.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, pp. 36–37) found the ash of eight samples of white pepper ranging from 0.76 to 1.08 per cent and the alcoholic extract from 8.95 to 10.5 per cent. Two samples of black pepper yielded 3.95 and 5.06 per cent of ash, 10.8 and 12.25 per cent of alcoholic extract, respectively, being obtained.

PLUMBI ACETAS.

Westerkamp, Arthur, discusses the electrolytic estimation of lead in tin-lead amalgams and similar mixtures.—*Arch. d. Pharm.*, 1907, v. 245, pp. 132-139.

Klose, G., reports that adeps lanae dissolves approximately 1.09 per cent of lead acetate at 45° C.—*Arch. internat. de Pharmacod. et de Thérap.*, 1907, v. 17, p. 462.

Patch, E. L., reports that purified granular plumbi acetate frequently contains excess of carbonate.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 329.

Caspari, Chas. E., (com. on adulterations) examined 7 samples, 4 satisfactory: 3 contained excess carbonate.—*Proc. Missouri Pharm. Ass.*, 1907, p. 143.

Blome, Walter H., (com. on adulterations) reports on lead acetate; excess of carbonate; iron also present.—*Proc. Michigan Pharm. Ass.*, 1907, p. 69.

Evans Sons Lescher and Webb (*Analytical Notes*, 1907, 1908, p. 31) detected heavy contamination with metallic lead in 3 samples of litharge.

Dauwe, O., makes a contribution to the experimental study of acute saturnism, the neutralizing power of sodium sulphate, etc.—*Arch. internat. de Pharmacod., et Thérap.*, 1907, v. 17, pp. 387-443.

PLUMBI OXIDUM.

Partheil, A., discusses the composition and the examination of commercial lead oxides.—*Arch. d. Pharm.*, 1907, v. 245, pp. 519-528, 683.

Böttger, W., discusses the quantitative estimation of lead as lead oxalate and concludes that the precipitation of the lead ion as oxalate offers the advantage that the precipitate may be determined titrimetrically by means of potassium permanganate.—*Pharm. Post, Wien*, 1907, v. 40, p. 679.

Pieszczyk, Ernst, outlines a method for testing lead oxide which depends on the reduction of lead peroxide to lead oxide in the presence of hydrogen dioxide and nitric acid.—*Pharm. Ztg., Berl.*, 1907, v. 52, p. 922.

Partheil, A. discusses the testing of lead oxide. He points out that the determination of the insoluble residue according to the method prescribed by the *Ph. Germ.* IV, is impracticable because of the precipitate caused in the lead nitrate solution by oxalic acid. In place of the latter he recommends lactic acid and records a number of experiments.—*Chem. Ztg.*, 1907, v. 31, p. 941.

Blome, Walter H., (com. on adulterations) reports examining lead oxide. Impurities found, silica, barium, sulphate, iron, and alumi-

num. 0.2 per cent of impurities is allowed. One sample contained 0.62 per cent.—Proc. Michigan Pharm. Ass., 1907, p. 69.

Kinyon, C. B., points out that plumbum, like platina, has a great influence over the disorders of the mind, and is indicated by: Great melancholy, a feeling as though she would be paralyzed. A tendency to epilepsy. During the change of life. No appetite but violent thirst at times.—Tr. Am. Inst. Homœop., 1907, v. 63rd. session, p. 390.

PODOPHYLLUM.

Holm, Theo., describes and figures *Podophyllum peltatum*, L., including the microscopical structure of the several portions of the plant.—Merk's Report, N. Y., 1907, v. 6, pp. 250–253.

Henkel, Alice, describes and figures *Podophyllum peltatum* L., also called May apple, mandrake, wild mandrake, American mandrake, wild lemon, ground lemon, hog apple, devil's apple, Indian apple, raccoon berry, duck's foot, umbrella plant, and vegetable calomel.—Bul. Bur. Plant. Ind., U. S. Dept. Agric., 1907, No. 107, pp. 39–40.

Vanderkleed, Charles E., reports 6 assays of mandrake root ranging from 3.140 to 4.240 per cent. He asserts that the standard of 4.00 per cent is difficult to maintain.—Proc. Pennsylvania Pharm. Ass., 1907, p. 89.

POTASSII ACETAS.

Troxell, H. L., (com. on adulterations) says that in the test of the U. S. P. which calls for dry salt, the process of drying should be specified more clearly if possible. In order to obtain a perfectly dry salt, in this case it is not only necessary to heat for several hours, but it must be stirred frequently and the particles broken up. A perfectly dried salt will yield on further ignition the required percentage, if pure.—Proc. Maryland Pharm. Ass., 1907, p. 87.

Blome, Walter H., (com. on adulterations) reports the examination of several samples of potassium acetate: Chloride was found in two, one was acid in reaction, and another contained sulphate.—Proc. Michigan Pharm. Ass., 1907, p. 70.

Bachman, G., (com. on adulterations) reports potassium acetate ranging from 97.41 per cent to 90.1 per cent instead of 98 per cent as required by the U. S. P.—Proc. Minnesota Pharm. Ass., 1907, p. 40.

The inspectors of pharmacies found potassium acetate that had become liquified and suggest that this substance should be preserved in a desiccator. It was also found partially altered by chlorides and sulphates.—Ann. de Pharm., Louvain, 1907, v. 13, p. 324.

POTASSII BICARBONAS.

Bachman, Gustav. (com. on adulterations) examined potassium bicarbonate varying from 99 to 94.22 per cent instead of 99 per cent, as required by the U. S. P.—Proc. Minnesota Pharm. Ass., 1907, p. 40.

Patch, E. L., examined 4 samples ranging from 99.51 per cent to 99.76 per cent.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 330.

POTASSII BITARTRAS.

A report from Consul-General Robert P. Skinner, of Marseilles, contains considerable information concerning exports of argols and wine lees from France. He asserts that French argols yield a whiter cream of tartar than the raw material from any other country. The ordinary commercial classifications of the merchandise are: Brown argols, containing about 80 per cent of bitartrate of potash; red argols, containing 70 per cent; and wine lees, containing 30 per cent.—Oil, Paint and Drug Reporter, New York, 1907, v. 72, July 15, p. 28D.

Murray, Benjamin L., points out that silica may interfere with the test for alum and phosphates in potassium bitartrate. He suggests the use of a platinum dish instead of porcelain.—Merck's Report, N. Y., 1907, v. 16, p. 248.

Charles, P., states that chemists engaged in the cream of tartar industry usually employ as a standard for setting the volumetric alkaline solutions a potassium bitartrate of high grade, containing 99 per cent of $\text{KHC}_4\text{H}_4\text{O}_6$ purified from $\text{CaC}_4\text{H}_4\text{O}_6$ by digestion in dilute HCl .—J. de pharm. et de chim., Par., 1907, v. 25, pp. 333-335.

Havenhill, L. D., reports an examination on 28 samples obtained from grocers. Thirteen consisted almost entirely of substitutes, but were all sold at full price. Adulterants were acid calcium phosphate, calcium sulphate, etc. Samples from druggists were all pure.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 325.

Scoville, W. L., examined 1 sample, grocer's product, which contained 3 ounces cream of tartar, $5\frac{1}{2}$ ounces tartaric acid, $3\frac{1}{2}$ ounces starch, 4 ounces calcium sulphate.—*Ibid.*, v. 55, p. 325.

Blome, Walter H., (com. on adulterations) reports potassium bitartrate having a trace of aluminum.—Proc. Michigan Pharm. Ass., 1907, p. 70.

Bachman, Gustav, (com. on adulterations) reports potassium bitartrate ranging from 98.5 per cent to 90.48 per cent, instead of 99 per cent, as required by the U. S. P.—Proc. Minnesota Pharm. Ass., 1907, p. 40.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 21) say that the influence of appreciable contamination of calcium sulphate upon the ignition method of estimating the potassium bitar-

trate was recently brought under their notice. When dissolving the ash the potassium carbonate appears to react with the calcium sulphate, and calcium carbonate being deposited, the alkalinity of the solution becomes proportionately diminished.

An editorial calls attention to the report of A. W. J. MacFadden to the local government board, which showed the presence of notable amounts of lead and arsenic in many specimens of the imported citric and tartaric acid and cream of tartar.—*Brit. M. J.*, 1907, v. 1, p. 1139.

The annual report of the local government board for England and Wales points out that of a total of 272 samples of cream of tartar examined 13 were found to be adulterated or not up to standard.—*Chem. & Drug.*, Lond., 1907, v. 71, p. 828.

The inspectors of pharmacies assert that many samples of cream of tartar contain calcium tartrate and some calcium sulphate.—*Ann. de pharm.*, Louvain, 1907, v. 13, p. 326.

POTASSII BROMIDUM.

Lami, Pio, presents a study on the solubility of potassium bromide in water and points out that a saturated solution at 15° C. contains approximately 50 gms. of the salt in 100 cc. of the solution.—*Boll. chim. farm.*, Milano, 1907, v. 46, pp. 457-469.

Hankey, William T., reports examining potassium bromide which tested 83.9 per cent potassium bromide and 16.1 per cent sodium chloride and carbonate. The alkalinity was 5 times that allowed by the U. S. P.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 86.

Caspari, Chas. E., (com. on adulterations) examined 18 samples, 14 satisfactory; 4 contained excess of chloride.—*Proc. Missouri Pharm. Ass.*, 1907, p. 143.

The N. Y. State Board of Health, Eastern Branch, reports 13 samples examined. Two deficient.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 330.

Patch, E. L., examined 10 lots U. S. P.—*Ibid.*, v. 55, p. 330.

Diekman, Geo. C., asserts that 75 per cent of the potassium bromide on the market is below U. S. P. requirements.—*Proc. New York Pharm. Ass.*, 1907, p. 102.

Mossler, Gustav, examined 5 samples of potassium bromide and found one containing an excess of chloride.—*Ztschr. d. allg. österr. Apoth. Ver.*, Wien, 1907, v. 45, p. 37.

Philipp Röder (*Jahresbericht*, Wien, 1907, p. 85) recommends the use of a larger proportion of potassium bromide for analyses, and points out that the comparative error is thereby reduced.

Nageotte (*Gaz. des Maladies Infantiles et d'Obstét.*, Par., v. 9) describes certain types of epilepsy which yield to treatment with the bromides.—*J. Am. M. Ass.*, 1907, v. 48, p. 1639.

POTASSII CARBONAS.

Havenhill, L. D., reports on a number of samples of potassium carbonate, and points out that while these samples comply with the official requirements they do not correspond to the chemical formula as given in the Pharmacopœia or the description that is given. He suggests that either the requirements be changed to correspond with the description or that the latter and the chemical formula be changed to comply with the material now available and which corresponds to the 1880 description calling for a salt having the composition $K_2CO_3 \cdot 3H_2O$.—*Drug. Circ., N. Y.*, 1907, v. 51, p. 206.

Patch, E. L., examined different samples, which contained much dirt, others trace of iron and chloride. Average to assay 98 per cent.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 330.

Bachman, Gustav, (com. on adulterations) reports potassium carbonate ranging from 97.46 per cent to 90.58 per cent instead of 98 per cent as required by the U. S. P.—*Proc. Minnesota Pharm. Ass.*, 1907, p. 40.

The inspectors of pharmacies found potassium carbonate containing alum, chalk, and silica.—*Ann. de pharm., Louvain*, 1907, v. 13, p. 326.

Mossler, Gustav, examined 9 samples of potassium carbonate and found 2 containing thiosulphate, 1 sample contained traces of iron, and 2 chloride.—*Ztschr. d. allg. österr. Apoth. Ver., Wien*, 1907, v. 45, p. 37.

Kinyon, C. B., points out that "Kali carb" was frequently used by the earlier practitioners in place of pulsatilla, with marvelous results in many cases. If given faithfully it will frequently reestablish the menstrual function and bring about a very satisfactory degree of health.—*Tr. Am. Inst., Homœop.*, 1907, 63d session, p. 387.

POTASSII CHLORAS.

Betts and Sherry detail some experiments on the manufacture of chlorates and hypochlorites with a view to high-current efficiency.—*J. Am. Chem. Soc.*, 1907, v. 29, pp. 340-345.

An unsigned article discusses the dangerous nature of potassium chlorate and points out that the presence of the lower oxides of chlorine materially enhances the danger.—*Pharm. Ztg., Berl.*, 1907, v. 52, p. 147.

Luther and Rutter discuss the iodometric determination of chlorates and outline a process which they believe to be practicable.—*Ztschr. f. anal. Chem. Wiesb.*, 1907, v. 46, pp. 521-522.

Evans Sons Lescher and Webb (*Analytical Notes*, 1907-8, p. 38) tested 17 lots, 4 of which were found to contain marked amounts of H_2S metals. Estimated colorimetrically (as lead) the quantity in these amounted to about 40 parts per million.

The contributor of the "Vienna letter" relates the circumstances of a fatal case of poisoning with potassium chlorate. The amount taken was small, suggesting a peculiar idiosyncrasy toward the drug.—*J. Am. M. Ass.*, 1907, v. 49, p. 1930.

An abstract from the *Lancet* of October 26 reports a fatal case of poisoning by potassium chlorate, the patient having taken 20 gms. of the salt.—*Pharm. J., Lond.*, 1907, v. 25, p. 588.

Pinneo, Frank W., is reported to have said that the use of potassium chlorate as a throat wash would prevent many of the complications in middle ear infection of scarlet fever.—*N. York M. J.*, 1907, v. 86, p. 184.

POTASSII CITRAS.

Patch, E. L., examined 12 lots: 2 contained excess of heavy metals, 1 was excessively acid.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 330.

Gilmour, J. P., reports 18 samples examined as of Ph. Brit. standard; he finds this salt "rarely neutral; invariably (*sic.*) acid or alkaline." *Year Book of Pharmacy, Lond.*, 1907, pp. 446-455.

POTASSII DICHROMAS.

Gossage and Bernstein describe the symptoms of poisoning observed in a man who took about 72 grains of potassium dichromate, and died about the ninth day despite treatment.—*Lancet, Lond.*, 1907, v. 173, p. 1758.

Littlejohn, Harvey, (Univ. of Edinburgh. *Edinburgh Med. J.*, 22, 235-239) reports a case of fatal poisoning with bichromate of potassium.—*Chem. Abstr. Am. Chem. Soc.*, 1908, v. 2, p. 550.

Raue, C. Sigmund, points out that "Kali bichromicum" is particularly useful for the catarrhal conditions encountered in syphilis, and that it, like "Kali hydriodicum" follows well after mercury.—*Tr. Am. Inst. Homœop.*, 1907, 63rd session, p. 526.

POTASSII ET SODII TARTRAS.

MacFadden, A. W. J., reports on 15 samples of cream of tartar of foreign origin; only 1 of these samples examined exceeded the limit of arsenic, and 11 samples were free from arsenic. The home-manufactured samples of tartaric acid and cream of tartar gave a percentage of lead which in no case exceeded 0.002 per cent, and all were found to be free from arsenic. *Pharm. J. Lond.*, 1907, v. 24, p. 554.

POTASSII FERROCYANIDUM.

Karslake, William Jay, describes a method of preparing potassium ferrieyanide from potassium ferrocyanide by using a dilute aqueous solution of potassium permanganate without the addition of any acid whatever.—*Am. Chem. J.* 1907, v. 37, p. 637.

POTASSII HYDROXIDUM.

Bachman, Gustav. (com. on adulterations) reports potassium hydroxide ranging from 86.65 per cent to 81.30 per cent, instead of 85 per cent as required by the U. S. P.—Proc. Minnesota Pharm. Ass., 1907, p. 40.

Patch, E. L., examined 6 samples assaying from 84.04 per cent to 86.64 per cent; 2 contained large excess of chlorides.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 330.

POTASSII IODIDUM.

Mitchell, Edward, asserts that potassium iodide is not the least among the troubles of the wholesale druggist. An excess of iodate causes them to decline quite a liberal proportion of stock shipped. His firm rejected in one year 3,000 pounds of this item.—Proc. Arkansas Pharm. Ass., 1907, p. 90.

Riegler, E., discusses a new method for the estimation of iodides in the presence of bromides and chlorides which depends on the oxidation of the iodide in alkaline solution, with potassium permanganate and the subsequent treatment of the resulting iodate with hydrazinsulphate.—Ztschr. f. anal. Chem., 1907, v. 46, pp. 315-318.

Rupp and Kost outline a method for the determination of potassium iodide in ointments, which they say is superior to the argentometric method in that it is not affected by the presence of chlorine or bromine. It is based upon the fact that iodine is liberated in acid permanganate solution and titrated with thiosulphate after decomposing the excess of permanganate with oxalic acid.—Pharm. J. Lond., 1907, v. 24, p. 695.

Jones, Lindsay, and Carroll discuss the conductivity of certain salts in mixed solutions and report a number of experiments on the conductivity of potassium iodide in water, alcohol, methyl alcohol, and in mixtures of these solvents.—Ztschr. d. physik. Chem., 1907, v. 56, pp. 129-178.

Lami, Pio, asserts that a saturated, aqueous solution of potassium iodide, at 15° C., contains approximately 133.3 gms. of salt in 100 cc. of the solution.—Boll. chim. farm. Milano, 1907, v. 46, p. 457.

Kreman and Kerschbaum discuss the solubility of potassium iodide in water and of water in potassium iodide at low temperature.—Ztsch. f. anorg. Chem., 1907, v. 56, 218-229.

Klose, G., found that potassium iodide was practically insoluble in water free adeps lanae, but that a hydrated wool fat will dissolve approximately 42 per cent of potassium iodide, with partial decomposition of the salt, resulting in a distinctly brown coloration of the resulting mixture.—Arch. internat. de Pharmacod. et de Thérap., 1907, v. 17, p. 462.

Caspari, Chas. E., (com. on adulterations) examined 103 samples, 69 satisfactory; 14 contained excess alkali; 20 contained iodate.—*Proc. Missouri Pharm. Ass.*, 1907, p. 143.

Bachman, Gustav, (com. on adulterations) reports potassium iodide ranging from 99 per cent to 97.3 per cent, instead of 99 per cent, as required by the U. S. P.—*Proc. Minnesota Pharm. Ass.*, 1907, p. 40.

Patch, E. L., examined 15 lots, U. S. P. quality.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 330.

Blome, Walter H., (com. on adulterations) reports on 5 samples of potassium iodide; 2 contained excess of chloride and bromide; 1 contained iron; 2 contained thiosulphate.—*Proc. Michigan Pharm. Ass.*, 1907, p. 70.

The inspectors of pharmacies found samples of potassium iodide that were excessively alkaline, and other samples, because of careless handling, partially decomposed and quite yellow.—*Ann. de pharm., Louvain*, 1907, v. 13, p. 328.

Abderhalden and Krautzsch report a comparative study of the elimination of iodine after the administration of potassium iodide and of sajodin.—*Ztschr. f. exper. Path. u. Therap.*, 1907, v. 4, pp. 716-719.

Hedinger and Loeb discuss the structural changes in the aorta of rabbits following subcutaneous injections of potassium iodide.—*Arch. f. exper. Path. u. Pharmakol. Leipz.*, 1907, v. 56, pp. 314-319.

Landis, H. R. M., discusses the use of potassium iodide in pulmonary tuberculosis for diagnostic purposes.—*Therap. Gaz., Detroit*, 1907, v. 31, pp. 235-238.

Aronstam, N. E., is quoted by the contributor of a note to the effect that potassium iodide may at times produce an angioneurotic edema of the face and eyes, but this may be avoided by combining it with tincture of belladonna or hyoseyamus.—*J. Am. M. Ass.*, 1907, v. 49, p. 953.

Suszmam, M., reports the occurrence of iodism after the use of several of the newer iodine compounds, for at least one of which it is claimed that it does not cause iodism.—*Therap. de Gegenw.*, 1907, v. 48, p. 144.

Raue, C. Sigmund, asserts that in the later manifestations of hereditary syphilis the iodide of potash must frequently be employed in material doses. Whether this shall be 5, 10, or even 20 grains three times daily rests entirely with the judgment of the physician.—*Tr. Am. Inst. Homœop.*, 1907, 63rd session, p. 527.

Additional references on the use of potassium iodide will be found in the *Index Medicus* and the *J. Am. M. Ass.*

POTASSII NITRAS.

Murmann, Ernst, reports experiments to determine the formation of potassium nitrate in the soil, and the influence of lime and magnesia on the available nitrate.—Oesterr. Chem. Ztg., Wien, 1907, v. 10, p. 181.

Caspari, Chas. E., (com. on adulterations) examined 14 samples, 13 satisfactory; 1 contained 12 per cent sodium chloride.—Proc. Missouri Pharm. Ass., 1907, p. 143.

van der Harst, J. C., reports on a sample of potassium nitrate containing chlorate.—Pharm. Weekbl., 1907, v. 44, p. 1506.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 38) report that the impurities most frequently found in this article were arsenium, chloride, and chlorate. Six parts of arsenium per million was the highest recorded figure, whilst chloric acid occurred several times in appreciable quantity.

POTASSII PERMANGANAS.

Warden, Edward C., reports some observations on the solubility of potassium permanganate, and presents the results of experiments in the form of tables. He finds that at 15° C. 100 parts of water will dissolve 5.4 parts of permanganate.—J. Soc. Chem. Ind., Lond., 1907, v. 26, pp. 452-453.

Hammer, J. W., (Svensk Farmaceutisk Tidskrit, 1907, pp. 221-224) finds that solution of permanganate, in the absence of organic matter, will keep indefinitely. From his investigations it would appear that an aged solution of permanganate is more reliable than one freshly prepared.—Apoth. Ztg., Berl., 1907, v. 22, p. 841.

An unsigned article discusses the preparation of permanganates other than those of potassium and sodium by means of the electric current.—Oil, Paint and Drug Reporter, New York, 1907, v. 72, July 15, p. 52.

Bachman, Gustav, (com. on adulterations) reports potassium permanganate ranging from 96.2 per cent to 82.5 per cent instead of 99 per cent as required by the U. S. P.—Proc. Minnesota Pharm. Ass., 1907, p. 40.

Troxell, H. L., (com. on adulterations) found some samples deficient in strength and purity.—Proc. Maryland Pharm. Ass., 1907, p. 87.

An editorial discusses some of the widely varying opinions on the use of potassium permanganate in the treatment of snake bites.—Med. Rec. N. Y., 1907, v. 72, p. 190.

Braddock, Charles S., states he used potassium permanganate in the treatment of snake bites, injecting a solution into the wound and into the tissue about the wound.—N. York M. J., 1907, v. 86, p. 885.

An editorial reply to a query states that potassium permanganate destroys about its own weight of snake venom, and the method of Brunton and Fayrer of rubbing the permanganate into a wound after tying the limb above the bite constitutes a good method of treating snake bite. Haw, W. H., suggests the freezing of the part with ethyl chloride before the use of the permanganate.—*J. Am. M. Ass.*, 1907, v. 49, p. 1130.

Additional references on the use of potassium permanganate will be found in the *Index Medicus* and the *J. Am. M. Ass.*

PRUNUS VIRGINIANA.

Francis, John M., has seen many samples of wild cherry bark which had been gathered at an improper season or which were obtained from the improper part of the tree.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 62.

An unsigned article quotes Stevens, Caldwell, and 3 manufacturers as giving the percentage of alcohol in the official fluid extract of wild cherry as 75.9, 19, 18, 35, and 10 per cent, respectively.—*Drug Circ.*, N. Y., 1907, v. 51, p. 319.

Buckner, J. C., reviews the literature relating to syrup of wild cherry, and concludes that the formula offered by Cline is perhaps the best. This method provides for the addition of the glycerin to the percolate, and the syrup so prepared is said to keep well and to be more nearly what the average person expects to see as syrup of wild cherry.—*Proc. Texas Pharm. Ass.*, 1907, pp. 77-80.

Benfield, in discussing the syrup of wild cherry, asserts that a better color and a more stable product could be made by mixing 50 cc. of glycerin with the water used for maceration of the drug, leaving the remaining 100 cc. to be mixed with the percolate. He also found that to make a syrup that would keep, the amount of sugar should be increased to 750 gms.—*Bull. Am. Pharm. Ass.*, Chicago, 1907, v. 2, pp. 121, 122.

PULVIS EFFERVESCENS COMPOSITUS.

Patch, E. L., examined 200 barrels which contained traces of chloride and traces of sulphate; several, traces of iron; ten not thoroughly mixed. Samples from different portions of the barrels assayed differently; otherwise were U. S. P. Sample of Seidlitz powders, mixture contained 45.88 per cent of sodium bicarbonate instead of 25.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 330.

QUASSIA.

Quant, Ernest, reports as the result of his experiments that the present cold infusion of quassia keeps better than one made with boiling water, but that the present infusion would be improved in

its keeping properties if to the present official directions were added instructions "to boil for a few minutes and allow to cool."—Year Book Pharm., Lond., 1907, pp. 446–455. (See also Pharm. J., Lond., 1907, v. 25, p. 111.)

The editor of "Therapeutical Notes" states that the simple bitters stimulate the gastric and the pancreatic secretions in gastric hyposthenia. G. Bardet, (Bulletin général de thérapeutique, March 30, 1907) places quassia at the head of the list of simple bitters.—N. York M. J., 1907, v. 85, p. 842.

Ramseyer, A. A., quotes Rademacher as to the wonderful efficacy of quassia in liver diseases.—Eclectic M. J. Cincin., 1907, v. 67, pp. 340–342.

QUININA.

The British report of Java on the quinine industry during the year 1906, asserts that the quantity of sulphate of quinine disposed of at auction, and by private sales in Batavia, by the Bandoeng Quinine Factory during the year 1906, amounted to 916,561 ounces, as against 534,400 ounces in 1905.—Oil, Paint and Drug Reporter, New York, 1907, v. 72, July 22, p. 51.

An editorial discusses the outlook of quinine and reviews the economic conditions prevailing in the quinine market.—Pharm. J. Lond., 1907, v. 24, p. 22.

Consul-General W. H. Michael, of Calcutta, reports that the output of the quinine factory located in British Sikkim was 18,717 pounds 4 ounces, which is less by 2,897 pounds 8 ounces than the product of last year. This decrease was due to the low per cent of quinine sulphate in the bark.—Oil, Paint and Drug Reporter, New York, 1907, v. 72, September 23, p. 16.

An editorial calls attention to the fact that the government of India uses quinine colored pink, to distinguish it from the commercial article commonly sold in the bazaars.—Pharm. J. Lond., 1907, v. 25, p. 332.

An editorial calls attention to the steady decrease in the price of quinine during the past quarter of a century, and points out some of the causes for this decrease in price.—*Ibid.*, v. 24, p. 688.

Larrouturon, J., reports a series of studies on the fluorescence of quinine and its various salts. He classifies salts of quinine into 4 groups:

1. Salts without action on fluorescence.
2. Salts developing fluorescence.
3. Salts extinguishing fluorescence.
4. Salts having a mixed action on fluorescence.—Bull. de la Soc. de pharm. de Bordeaux, 1907, v. 47, pp. 129–140; 169–181; 210–222; 238–246; 262–272; 298–305; 332–339.

Abensour, J., proposes a modification of André's process which, he says, will permit the recognition of very small traces of quinine (1 milligramme in a litre of water).—*J. de pharm. et de chim.*, 1907, v. 26, p. 25.

Larrouturron, J., (*Zeit. Allgem. österr. Apothek. Ver.*, 13, March 30, 1907) points out that the statement that quinine in aqueous solution is neutral to phenolphthalein is erroneous. Chemically pure quinine reacts alkaline toward phenolphthalein: the "pure" quinine of commerce often contains traces of basic sulphate, which, like all quinine salts, has an acid reaction toward phenolphthalein.—*Pharm. J. Lond.*, 1907, v. 24, p. 433.

Flury, Ferdinand, reviews some of the recent literature relating to quinine and the properties of certain quinine salts.—*Ztschr. f. ang. Chem.*, Berl., 1907, v. 20, p. 619.

Dulière, Walter, discusses the thaleioquin test as an available approximate test for determining the percentage of quinine in cinchona bark.—*Ann. de pharm.*, Louvain, 1907, v. 13, pp. 49–50.

Christensen, A., discusses the approximate determination of quinine in pharmaceutical preparations by means of S. M. Jorgensen's reagent.—*Arch. f. Pharm. og. chem.*, Copenhagen, 1907, v. 14, pp. 17–20.

Schultze, Louis, points out that solutions of various alkaloids of chloroform, especially those of quinine, have been found to require less acid for neutralization than they should, due to the decomposition of the chloroform with the production of hydrochloric acid. Solutions of alkaloids in chloroform or ether-chloroform should be distilled as quickly as possible after the shaking-out process.—*Proc. Maryland Pharm. Ass.*, 1907, p. 47.

Madsen, Høst, (*Ber. d. V. Pharm. Ges.*, 1906, No. 9) in view of the failure of the herapathite reaction, as usually carried out by the original directions of Autenrieth, to give reliable results, recommends the following method, which yields uniformly accurate results: The reagent is prepared by dissolving 1 part of iodine in 1 part of 50 per cent of hydriodic acid, 0.8 part of sulphuric acid, and 50 parts of 70 per cent alcohol. If a few drops of this reagent are added to an alcoholic solution of quinine herapathite crystals of the required composition will separate on standing for a short time. The reagent may conveniently be kept in stock.—*Proc. Am. Pharm. Asso.*, 1907, v. 55, p. 924.

Reichard, C., outlines several new reactions for quinine and points out that several of the naturally occurring bases appear to have a tendency to produce certain color effects. Thus opium alkaloids give predominantly yellow reactions, while cinchona alkaloids, more frequently at least, produce green reactions.—*Suedd. Apoth. Ztg.* 1907, v. 47, pp. 26–27.

Warren and Weiss discuss the use of picrolonic acid as a precipitant for quinine, also describe and figure quinine picrolonate.—*Journ. Biol. Chem.*, N. Y., 1907, v. 3, p. 337.

Thurston, Azor, asserts that quinine sulphate is levorotatory in aqueous or alcoholic solutions.—*Merek's Report*, N. Y., 1907, v. 16, p. 124.

Murray, Benjamin L., in discussing the official tests for quinine salts, points out that the descriptions for the alkaloid, bisulphate, hydrochloride, and hydrobromide are very loose on several points which he enumerates.—*Ibid.*, v. 16, p. 247.

Dohme and Englehardt state that they have experienced very little difficulty in obtaining quinine and its salts with the purity required by the U. S. P., but they point out that the amount of 7 cc. of a 10 per cent ammonia water as allowed by the U. S. P. for redissolving the other cinchona alkaloids in the Kerner's test is entirely too large.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, pp. 380–381.

Troxell, H. L. (com. on adulterations), asserts that, as the Revised United States Pharmacopœia allows 7 cc. of ammonia water in the tests for other cinchona alkaloids, it is not difficult to obtain these preparations of required purity, although some samples were found not to answer this very lenient test.—*Proc. Maryland Pharm. Ass.*, 1907, p. 87.

An abstract asserts that the free base quinine is being used as a substitute for quinine tannate and euquinine. The alkaloid is free from taste, and, although only slightly soluble in water, is absorbed with remarkable rapidity and completeness.—*Pharm. J.*, Lond., 1907, v. 25, p. 588.

Grosser, Paul, discusses the retention of quinine in the organism. He suggests that the liver has the function of decomposing quinine, but when overpowered by malaria, so that the quinine is no longer destroyed, the latter may act toxically.—*Biochem. Ztschr. Berl.*, 1907, v. 8, pp. 98–117.

Giemsa and Schaumann (*Arch. f. Schiffs. u. Tropenhyg.* 11, Beiheft 3) report a series of observations to determine the resorption, elimination, and action of quinine on man and animals.—*Jahresb. ü. Tier Chem. Wiesb.*, 1907, v. 37, p. 783.

Schmitz, Richard, discusses the elimination of quinine in the urine of man, the form in which it is eliminated, the amount thus eliminated, and the influence of different modes of administration on the elimination of the drug.—*Arch. f. exper. Path. u. Pharmacol.*, Leipz., 1907, v. 56, pp. 301–313.

Wyman, Walter, discusses the March of Sanitation and cites the use of quinine in Italy in reducing the death rate from malaria.—*J. Am. M. Ass.*, 1907, v. 48, pp. 1830–1835.

Sandwith, F. M., mentions the use of quinine, among a large number of drugs which are used in the treatment of dysentery.—*Lancet*, Lond., 1907, v. 173, pp. 1589–1592.

A contributor to the "Medical News" column states that the Academy of Medicine of Rome has petitioned that the Government have quinine tannate lozenges distributed for children in malarial regions. The tannate is said be borne when there is considerable vomiting, and it influences diarrhea favorably.—*J. Am. M. Ass.*, 1907, v. 48, p. 1362.

An editorial discusses the hypodermic use of quinine and reviews a number of communications on the use of the several salts of quinine and their combinations.—*Therap. Gaz.*, Detroit, 1907, v. 31, pp. 387–388.

Maurel and d'Orel discuss the influence of the paths of administration (gastric, hypodermic, intravenous, etc.) on the minimal lethal dose of neutral quinine hydrobromate.—*Compt. rend. Soc. de biol. Par.*, 1907, v. 62, pp. 1179–1180. (See also under Sparteine sulphate and "Methods of Administration.")

Solis-Cohen, S., states that he has demonstrated a hundred times that a single injection of quinine with urea will suffice to secure a period of thirteen or fourteen days in single tertian, or one of six or seven days in double tertian, infection in which no paroxysms occur. The coincidence of these periods is suggestive of some fundamental relation between the various phenomena, but just what it is Solis-Cohen does not attempt to say.—*J. Am. Med. Ass.*, 1907, v. 49, p. 158.

Ziemann, Hans, recommends the so-called four-day universal prophylaxis against malarial fever. He orders 1 gm. of quinine every four days.—*Brit. M. J.*, 1907, v. 2, p. 1047.

Prout, W. T., discusses the use of quinine in the treatment of black water fever, the mode of administration, and its use as a prophylactic.—*Ibid.*, v. 2, pp. 1326–1327.

Braddock, Charles S., states that he found quinine an infallible diagnostic test for bubonic plague. If it caused the reduction of fever in suspected cases it was not plague.—*N. York M. J.*, 1907, v. 85, pp. 1119–1120.

Robinson, William J., discusses the use of the several salts of quinine as an injection and for irrigating the bladder in bacteriuria and in subacute cystitis.—*Critic and Guide*, New York, 1907, v. 10, September, pp. 83–84.

For additional references on the use of quinine, see the *Index Medicus* and the *J. Am. M. Ass.*

QUININÆ BISULPHAS.

Stansfield, J. M., wonders why quinine bisulphate is directed to be preserved in dark amber-colored, the sulphate in well-stoppered bottles preferably of an amber color, and in a dark place and other quinine salts in well stoppered, amber-colored vials without further directions as to location.—*Proc. Florida Pharm. Ass.*, 1907, p. 10.

Thurston, Azor, asserts that quinine bisulphate is laevorotatory in aqueous or alcoholic solutions.—*Merck's Report*, N. Y., 1907, v. 16, p. 124.

Philipp Röder (*Jahresbericht*, Wien, 1907, p. 37) reports that of 2 samples of quinine bisulphate examined, one contained foreign bases.

QUININÆ HYDROCHLORIDUM.

Stansfield, J. M., questions the advisability of retaining quinine sulphate and quinine bisulphate in the U. S. P.: they are relics of the ancients. He believes that quinine hydrochloride is by far the most desirable of the several quinine salts either for internal or external use.—*Proc. Florida Pharm. Ass.*, 1907, p. 10.

Thurston, Azor, asserts that quinine hydrochloride is laevogyrate in aqueous or alcoholic solutions.—*Merck's Report*, N. Y., 1907, v. 16, p. 124.

Howards & Sons point out that the Ph. Japon III has adopted the Ph. Germ. IV test, which is absolutely unattainable for an ordinary commercial article, and it is doubtful whether any commercial quinine has ever been prepared to pass this test.—*Chem. & Drug. Lond.*, 1907, v. 71, p. 693.

Philipp Röder (*Jahresbericht*, Wien, 1907, p. 38) reports that one of four samples of quinine hydrochloride examined contained sulphuric acid and foreign cinchona bases.

Manwaring and Ruh discuss the effect of quinine hydrochloride and other agents on phagocytosis, and conclude that quinine hydrochloride, added in increasing amounts, causes a stimulation in phagocytosis, phagocytosis reaching a maximum as soon as the concentration reaches 1/200 per cent. A further increase in quinine hydrochloride causes a decrease in this stimulation, phagocytosis being reduced to normal as soon as the concentration reaches 1/120 per cent. In larger amounts, quinine hydrochloride causes a depression in phagocytosis, phagocytosis apparently ceasing soon after the concentration reaches 1/40 per cent. Whether the observed stimulation is a permanent stimulation or a transient stimulation, to be succeeded by a depression has not been determined.—*J. Exper. M.*, N. Y., 1907, v. 9, pp. 473-486.

Sylvestrini, E., (*Gaz. deg. Osped. e delle Cliniche*, Milan, v. 28) employed quinine hydrochloride in the treatment of phagedenic ulcer-

ation, neglected wounds, whitlow, etc., with excessive granulation with excellent results. He finds it an excellent substitute for silver nitrate, being a painless caustic.—*J. Am. M. Ass.*, 1907, v. 49, p. 888.

QUININÆ SULPHAS.

Blome, Walter H., (com. on adulterations) reports on samples of quinine sulphate; 3 contained excess of other alkaloids of cinchona.—*Proc. Michigan Pharm. Ass.*, 1907, p. 70.

Caspari, Chas. E., (com. on adulterations) examined 19 samples, 17 satisfactory; 2 contained excess of other cinchona alkaloids.—*Proc. Missouri Pharm. Ass.*, 1907, p. 145.

Evans Sons Lescher and Webb (*Analytical Notes*, 1907, 1908, p. 38) state that no sample required more than 6 mls. of ammonia solution when tested by Kerner's test as given in the B. P. Codex and U. S. P.

The inspectors of pharmacies assert that quinine sulphate is generally poorly preserved, and is frequently impure, being contaminated with other cinchona alkaloids.—*Ann. de pharm. Louvain*, 1907, v. 13, p. 330.

Philipp Röder (*Jahresbericht*, Wien, 1907, p. 38) reports that of 7 samples of quinine sulphate examined 3 contained foreign cinchona bases. The water of crystallization varied from 7.8 to 13.6 per cent, being in each case well below 15 per cent.

Wilson, Thomas M., reports a number of observations on the action of quinine sulphate on human blood, studied both in vivo and in vitro.—*Am. J. Physiol.*, Bost., 1907, v. 19, pp. 445-460.

Askenstedt, Fritz C., reports a proving of quinine sulphate and sounds a word of warning with regard to the abuse of large doses of quinine. "Their disorganizing action upon the blood and the embarrassment they incur upon certain metabolic processes must greatly hamper nature's efforts at repair, which in inflammatory conditions are further embarrassed by a negative chemotaxis induced by quinine, as Metchnikoff and others have pointed out.—*Hahnemann. Month.*, Phila., 1907, v. 42, pp. 241-249.

RENNIN.

Laqueur, Ernst, (*Biochem. Centralbl.* v. LV, pp. 333-347) discusses the action of rennin on milk and casein, the theories that have been advanced and the behavior of the ferment at varying temperatures.—*Bot. Centralbl.*, 1907, v. 104, p. 7.

Grognot L., (*Rev. gén. chim.*, 10, 177) reviews the literature relating to rennet and discusses its occurrence, preparation, mode of action, preservation, and other phases of the subject.—*Chem. Abstr.* *Am. Chem. Soc.*, 1907, v. 1, p. 2009.

An unsigned article discusses the occurrence of rennet, its use in the manufacture of cheese, the preparation of essence of rennet, and also calls attention to the fact that the powder does not lose its strength by keeping, as the essence is liable to do.—*Sc. Am. Suppl.*, N. Y., 1907, v. 63, pp. 26311–26312.

An answer to a correspondent points out that the value of rennin depends upon its power to curdle milk, and that the only test for rennin now available is the determination of this milk-curdling property by a series of comparative tests, noting the amount of milk each sample will curdle in the same unit of time.—*Pharm. Era*, N. Y., 1907, v. 37, p. 277.

Siegfeld, M., (*Milkwirtschaft. Zentr.*, 3, 426–430) discusses the influence of moderate degree of heat on rennet ferment.—*Chem. Abstr. Am. Chem. Soc.*, 1908, v. 2, p. 433.

Madsen & Walblum (*Danish Inst. for Serum Therapy*) give a formula by means of which the spontaneous decrease in the activity of rennet during heating can be expressed.—*Ibid.*, v. 1, p. 199.

RESINA.

Levy, Paul, discusses the constitution of American rosin.—*Ber. d. deutsch. chem. Gesellsch.*, 1907, v. 40, III, pp. 3658–3660.

Vesterberg, Albert, makes a contribution to our knowledge of coniferous resin acids, discusses the empiric formula for abietinic acid and the behavior of dextro pimaric acid on distillation in vacuo.—*Ibid.*, v. 40, pp. 120–123.

Koritschoner, F., presents a communication to the knowledge of abietinic acid, reviews some of the literature relating to the substances, and discusses its composition.—*Ztschr. f. ang. Chem.*, Berl., 1907, v. 20, pp. 641–645.

Tschirch and Wolff discuss the occurrence of abietinic acid in rosin oil and demonstrate that it is present in appreciable quantities.—*Arch. d. Pharm.*, 1907, v. 245, pp. 1–4.

Dietrich, Karl, (*Pharm. Zentrh.*, v. 47, p. 852) asserts that Claretta resin is obtained from *Alzorella compacta*, a plant growing in Chile. It is dark in color and has an acid aromatic odor. It contains considerable amounts of impurities from the plant; 16 to 19 per cent of its weight is lost upon drying at 100° and the ash amounts to 2 to 3 per cent.—*Chem. Abstr. Am. Chem. Soc.*, v. 1, p. 221.

Fahrion, W., discusses the autoxidation of rosin and the various uses to which rosin is being put at the present time.—*Ztschr. f. ang. Chem.*, Berl., 1907, v. 20, pp. 256–261.

Kline and Graham point out that powdered rosin will not keep unless some commercial substance is added to prevent the powder from running together. Incomplete solubility in alcohol detects this contamination.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 86.

Graham, Willard, examined three samples of rosin having a specific gravity of 1.08, an ash content ranging from 0.03 per cent to 0.6 per cent, and acid number from 162.5 to 165.5.—*Ibid.*, p. 238.

RESINA PODOPHYLLI.

Smith, Kline & French Co. report examinations of Podophyllin made by alcohol and acetone processes. By alcohol, physical appearance light greenish yellow. Solubility in alcohol 98.8 per cent, in ether 90.85, in chloroform 74.95, ash 0.75. Acetone process, physical appearance brownish yellow. Solubility in alcohol 98.9, in ether 93.15, in chloroform 75.2, ash 0.70. One hundred pounds of drug by the alcohol method gave 4.25 per cent, by the acetone method 4.75 per cent. Previous lots had yielded 5.5 per cent. It is yet to be proven if the acetone product is the same chemically and therapeutically as the U. S. P. alcohol product.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 330.

Southall's Report (1907, 32) notes 5 specimens of podophyllin from *P. peltatum* which gave 7.04, 7.40, 11.80, 11.20, and 7.88 per cent, respectively, of matter insoluble in ammonia. One specimen from *P. emodi* gave 58 per cent of insoluble matter with ammonia.—*Year Book Pharm.*, Lond., 1907, p. 130.

The inspectors of pharmacies assert that it is rare to find a sample of podophyllin that is entirely soluble in alcohol or solutions of caustic alkalies.—*Ann. de Pharm.*, Louvain, 1907, v. 13, p. 329.

Sayre, L. E., found a sample of resin of podophyllum to contain 1.5 per cent of ash. He thinks that the pharmacopœial requirement not more than 0.7 per cent is too low, though he has seen samples in stock yielding as low as 0.4 per cent. He finds that there are two distinct grades of podophyllin upon the market, one of which is strictly U. S. P. VIII, this being practically free from ash, while the other contains an appreciable quantity of ash and is possibly 10 per cent weaker than the U. S. P. variety; but the difference in cost is much greater than this. He is inclined to favor permitting the weaker product being sold.—*Bull. Kansas Bd. Health*, 1907, pp. 12, 45.

RESINA SCAMMONII.

Guigues, M. P., (*J. pharm. chim.*, 6, 24, 498-501) gives a method for the determination of the optical rotation of scammony resin. He shows that it is possible to adulterate resin of scammony with its own weight of colophony without detection, if the solubility assay alone be employed. Sophistication to but a small extent can be possible, however, if the polariscope be used in conjunction with the solubility test.—*Chem. Abstr. Am. Chem. Soc.*, 1907, v. 1, p. 624.

RESORCINOL.

Walton, L. L., reports some observations on the incompatibility of resorcin with liquid petrolatum.—Proc. Pennsylvania Pharm. Ass., 1907, pp. 111-112.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, pp. 47-50) have found that resorcinol is a suitable substance for the quantitative separation of cineol from the oils, in oil of eucalyptus. The method of separation is outlined and comparative results are recorded.

Jamieson, W. Allan, states that resorcin favors desquamation in ichthyosis, tending to leave the skin polished and pliant, hence its use is especially indicated. Sulphur and salicylic acid are not satisfactory in the treatment of this disease.—Brit. M. J., Lond., 1907, v. 1, p. 364.

Seibert, A., discusses Prophylaxis in Epidemic Cerebrospinal Meningitis, and states that a solution of equal parts of alcohol and resorcin is useful to disinfect the naso-pharynx. It should be used to prevent further absorption and expectoration of meningococci by the patient and in all persons who have been exposed to the infection.—J. Am. M. Ass., 1907, v. 49, pp. 1657-1658.

This paper was discussed by F. S. Churchill, Alfred Hand, A. W. Fairbanks, and Myer Solis-Cohen.

RHAMNUS PURSHIANA.

A review of the London drug market asserts that contrary to all expectations the crop of cascara sagrada is unprecedentedly short, and that the total of the available drug on the market is between 650 and 700 tons.—Chem. & Drug., Lond., 1907, v. 71, p. 486.

A news note points out that the season's harvest of cascara bark is ended. Washington furnishes about 20 carloads. Oregon shipped 7 carloads. This is a very small harvest as compared with that of previous years. In 1904 Oregon shipped 200 carloads. The market is now very strong. English cable advices state that 10 tons were sold at auction in London at 12½ cents per pound.—Pacific Pharm., San Francisco, 1907-8, v. 1, p. 429.

Knopf (Jour. de Pharm., 1907, 31) points out that the principal purgative constituent of cascara sagrada is a salt of potassium, which has no bitter taste. He has separated this organic salt by making an aqueous extract of the powdered bark and evaporating the liquid *in vacuo*. The dry extract is taken up by alcohol, which dissolves a large portion of it. The part insoluble in alcohol is redissolved in water, and a little alcoholic solution of caustic potash is added. This is collected, washed with alcohol, and dried *in vacuo*. This is the impure salt of potash, which is without taste or odour, and has a strong purgative action.—Chem. & Drug., Lond., 1907, v. 70, p. 190.

Philipp Röder (Jahresbericht, Wien, 1907, p. 45) reports that 7 samples of bark varied in ash content from 3.46 to 6.32 per cent.

Gilmour, J. P., found a number of samples of fluid extract of cascara sagrada which contained glycerin. He points out that the objection is not to the glycerin, but to the attempt to pass off a glycerinized liquid extract of cascara as a Ph. Brit. preparation. The samples examined varied extraordinarily as to the percentage of extractive. One sample yielded as much as 30 per cent, but there were some as low as 18 per cent.—Pharm. J. Lond., 1907, v. 25, p. 110.

Franklin, J. H., presents a formula for an improved form of liquid extract of cascara sagrada, using glycerin as a preservative.—Year Book Pharm., Lond., 1907, p. 433. (See also Pharm. J. Lond., 1907, v. 25, pp. 113–114.)

Panchaud expresses the belief that removing the bitter taste of cascara with magnesium oxide tends to make an appreciable quantity of the oxymethylantraquinone insoluble and thus impair the activity of the resulting preparation.—Schweiz. Wehnschr. f. Chem. u. Pharm. Zürich, 1907, v. 45, p. 519.

Caesar and Loretz (Geschäfts Ber., 1907, p. 14) discuss the conclusions arrived at by Panchaud, and point out that experience would indicate that fluid extracts of cascara prepared with magnesium oxide are still prompt and reliable in their action.

Gilmour, J. P., doubts the practicability of removing the bitter taste of cascara by heating with alkali. He suggests the setting of the mixture of extract and alkali aside for three months or longer as being the more desirable method.—Pharm. J. Lond., 1907, v. 25, p. 860.

Lyon, W., discusses the production of tasteless extract of cascara and asserts that he has never been successful in obtaining a bitterless, much less a tasteless, extract as a result of boiling with a solution of potash or solution of ammonia. He believes that a palatable and yet active liquid extract of cascara is still a desideratum.—*Ibid.*, v. 25, p. 695.

Dawson, Edward S., records his experience in making a lot of 5,000 cc. of fluid extract of cascara sagrada, aromatic, and points out some of the difficulties that were encountered.—Proc. New York Pharm. Ass., 1907, p. 225.

Gane, E. H., points out that cascara sagrada yields an average extract of 28.5 per cent to the official menstruum and that the resulting fluid extract contains approximately 29.1 per cent by weight or 23.9 per cent by volume of absolute alcohol. Distilled, 29.1 per cent by volume.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 319.

Kroeber, Ludwig, reports a comparative examination of the fluid extract of frangula and of cascara sagrada to determine the practicability of readily differentiating them by chemical means.—Pharm. Prax., 1907, v. 6, pp. 417–418.

RHEUM.

Goris and Crété report a study of Chinese rhubarb and show that the tannoides and anthraquinone compounds are contained in the same cells, and that these cells are distributed in the medullary rays and more or less isolated in the inner bark, woody and cortical.—Bot. Centralbl., 1907, v. 105, p. 415.

Goris and Crété review the latest acquisitions of science with reference to Chinese rhubarb, from the standpoint of its chemistry, anatomy, and commerce. Two plates, 6 figures.—Bull. d. sc. pharmacol., 1907, v. 14, pp. 93–104.

Gilson, E., (Rev. Pharm., 22, 289, 321, 353) discusses the purgative principles of Chinese rhubarb, which are held to be due to a combination (compound, not mixture) of four glucosides, named rheopugarin: its characters and those of the four glucosides are given with methods of separating the latter.—Year Book Pharm. Lond., 1907, pp. 136–138.

Tschirch, A., discusses the origin of Chinese rhubarb and concludes that the "southern" rhubarb, from Szetschwan, is obtained from *Rheum officinale*, while the "northern" rhubarb, from Kuku-noor, is obtained from *Rheum palmatum* β . *tanguticum*.—Arch. d. Pharm., 1907, v. 245, pp. 680–683.

Gehe & Co. (Handels-Bericht, 1907, p. 46) discuss the trade in Chinese rhubarb and present a table showing the amount of rhubarb exported from Shanghai to several ports during the years 1899–1906, inclusive. The total exports in 1906 amounted to 5,012 piculs.

Tschirch and Edner discuss the valuation of rhubarb and recommend the colorimetric method first proposed by Tschirch. They also report precipitation experiments with p-diazonitro aniline, according to the method proposed by Bader (Bull. Soc. d. Scient. din Bucaresci, 8, 51, 1899) for the precipitation of phenols and oxyazo compounds. They also present a table giving the comparative value of Chinese and European rhubarb.—Arch. d. Pharm., 1907, v. 245, pp. 150–153.

Morstatt, H., discusses the varieties of rhubarb and their valuation, reviews the history of the drug, and points out some of the characteristics of the more desirable Shensi rhubarb.—Suedd. Apoth. Ztg., 1907, v. 47, p. 480.

Tschirch and Edner report a study of the history, nature, and composition of English and of French rhubarb. The sample of English rhubarb examined they conclude was not derived from *Rheum rhaponticum*, while the sample of French rhubarb was.—Schweiz. Wchnschr. f. Chem. u. Pharm. Zürich, 1907, v. 45, pp. 245–251.

Alvarez, E. Pinerua, describes a color reaction produced by chrysophanic acid and emodin with the new general reagent for polyphenols, the hydrate of sodium dioxide.—*Pharm. J. Lond.*, 1907, v. 24, p. 6.

The inspectors of pharmacies found Rhapontic and Persian rhubarb in place of Chinese. The former, while of good appearance, is inferior to the Chinese drug.—*Ann. de pharm.*, Louvain, 1907, v. 13, p. 279.

Philipp Röder (*Jahresbericht*, Wien, 1907, p. 107) reports on 6 samples of rhubarb which varied in ash from 9.43 to 14.70 per cent and yielded from 22.87 to 56.10 per cent of extract. With exception of one sample, all exceeded the 35 per cent extract required by the *Ph. Austr.* VIII.

Cæsar and Loretz (*Geschäfts Ber.*, 1907, p. 101) suggest that, in addition to the *Ph. Germ* IV tests, rhubarb should conform to a colorimetric valuation according to the method outlined by Tschirch; also present tests for the absence of rhapontic root and of curcuma.

Voss, A., (*Pharm. Post*, 1907, 22, 92) prepares roasted rhubarb by gently roasting dried rhubarb in small pieces in an iron pot over an open fire until it assumes a light-brown color; it is used in the same way as ordinary rhubarb.—*Pharm. J. Lond.*, 1907, v. 24, p. 403.

Alcock, F. H., found the compound tincture of rhubarb containing 15 per cent of total solids, including glycerin, giving an insoluble residue of 0.4 per cent, another sample giving a residue of 0.37 per cent only.—*Ibid.*, v. 25, p. 738.

RHUS GLABRA.

Nelson, Burt E., describes and figures the structural characteristics of *rhus glabra*.—*Merck's Report*, N. Y., 1907, v. 16, p. 38.

Greene, E. L., (*Proc. Washington Acad. of Sciences*) has made an exhaustive study of the plants throughout the country which have been referred to *Rhus glabra* Lin. As the result of this study he has separated 28 segregates, five of which had already been suggested.—*Bull. Pharm.*, 1907, v. 21, p. 303.

ROSA GALLICA.

Kramer, Hans, describes and illustrates the structural characteristics of rose petals, whole and powdered.—*Ber. d. pharm. Gesellsch.*, Berl., 1907, v. 17, pp. 354–357.

SABINA.

Perrot, E., Collin, and others have shown that savin is, as it were, totally replaced in commerce by the young branches of *Juniperus phænicea*, common in the Mediterranean region, the oil of which differs in all points from that of savin. It is scarcely to be wondered

at, therefore, that savin has come to be inactive and has ceased to have a part in the therapeutic and veterinary arsenal.—Bull. d. sc. pharmacol., Par., 1907, v. 14, p. 348.

Garnier, L., having reported (Ann. d'hyg. publique de méd. légale, Par., 1906, v. 5, pp. 549–557) the cause of death of a victim and her previous abortion to be due to the ingestion of a large dose of a substance very irritant to the digestive tube, which seemed to be powdered savin or its oil. Perrot calls attention to the ease with which savin may be recognized by the microscope, thus avoiding a long, difficult, and inconclusive research.—*Ibid.*, p. 371.

Kinyon points out that the great keynote of "Sabina" is the constant uneasiness and discomfort in the region of the lumbar vertebrae with a drawing pain from behind the uterus to the pubis. These pains are labor-like in character, and they often extend down the thighs.—Tr. Am. Inst. Homœop., 1907, 63rd session, p. 390.

SACCHARUM.

Löb, Walther, discusses the probable chemistry of the production and the utilization of sugar in nature.—Ber. d. pharm. Gesellsch., Berl., 1907, v. 17, pp. 117–135.

Elkin, Z. C., (Bur. of the Census, U. S. Bul. 61, pp. 59–69) reports statistical and other data regarding the present condition and distribution of the beet-sugar industry in the United States. According to the figures presented, the total value of the beet-sugar products in 1905 was \$25,393,794, an increase of 233.1 per cent over the value for 1900 to 1905.—Exp. Sta. Rec., 1907–1908, v. 19, p. 166.

Kassner, G., (Ber. Deut. Pharm. Gesell., 17, 1907, No. 6, pp. 243–250) reports experiments in which about 75 per cent of the sugar in expressed beet juice was precipitated in combination with calcium sulphate and calcium oxide. He suggests the possibility of improving the method for practical use in the sugar industry.—*Ibid.*, v. 19, p. 810.

Cohn, Alfred L., points out that the U. S. P. test for added blue does not exclude the use of aniline blues which are now being used to "face" sugars. He thinks that until aniline dyes have been shown to have practically no action on remedial agents it would be better to insure their absence by proper tests.—Proc. N. Y. Pharm. Ass., 1907, p. 234.

Gilmour, J. P., thinks the Ph. Brit. tests for sugar are not stringent enough, and should be devised to exclude all "faced" sugars, which play havoc with medicinal syrups. The U. S. P. stipulation that aqueous and alcoholic solutions should not deposit a sediment on prolonged standing meets the case.—Pharm. J. Lond., 1907, v. 25, p. 110.

Chavassieu & Morel (*Nouv. Remédes*, 23, 1907, 174) recommend metadinitrobenzene as an efficient test for the detection and differentiation of sugars.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 908.

Cochran, C. B., (*Jour. Amer. Chem. Soc.*, 29, 1907, No. 4, pp. 555–556) gives the results of numerous experiments with acid mercuric nitrate solution as an inverting agent for sucrose.—*Exp. Sta. Rec.*, 1906–1907, v. 18, p. 1020.

Ito, S., reports his results with Allihn's modification of Fehling's method for the estimation of sugar by weighing the resulting oxide direct.—*J. Pharm. Soc. Japan*, 1907, p. 1379.

Wiechmann, F. G., (*Internat. Sugar Jour.*, 9, 1907, No. 98, pp. 68–77) in view of results obtained in his investigations of the determination of sucrose and reducing sugars in fluid saccharin products recommends for this purpose the retention of the present composition of Fehling's solution, clarification with basic lead acetate before the determination of the sucrose and reducing sugars, and the exclusive use of a gravimetric method for the determination of both sucrose and reducing sugars. He gives a gravimetric method for the purpose.—*Exp. Sta. Rec.*, 1906, 1907, v. 18, pp. 709–710.

Buchner, Meisenheimer, and Schade (*Ber.*, 39, 4217–'31) report their experiments on the fermentation of sugar.—*Chem. Abstr. Am. Chem. Soc.*, 1907, v. 1, p. 1041.

Murlin, J. R., points out that a specific relationship has been shown to exist between carbohydrates ingested and the elimination of nitrogen (or protein metabolism, as measured by nitrogen output). Carbohydrate, not needed for combustion (extra metabolic), is far more efficacious in reducing the nitrogen output (therefore favoring the retention of proteid) than carbohydrate coming within the requirement for potential energy. This fact indicates the importance of abundant carbohydrates for convalescence and growth, and may explain the almost universal craving for sweets, especially in the young.—*Am. J. Physiol. Bost.*, 1907, v. 20, p. 256.

An abstract discusses the relations of sugar and alcohol, and points out that chemically the two products are nearly identical. Physiologically, their action is somewhat similar, since alcohol in small quantities is quickly absorbed and becomes an energy producer.—*Paint, Oil and Drug Rev.*, Chicago, 1907, v. 44, October 2, p. 21.

Meyer, G., (*Deutsche med. Wehnschr.*, v. 33, No. 33) uses granulated sugar after heating to 140° and mixing with salicylic acid as an application to wounds before granulation begins. The absence of pain is regarded as evidence of the protection against infection owing to the drying out of the wound.—*J. Am. M. Ass.*, 1907, v. 49, p. 1152.

SACCHARUM LACTIS.

Marshall and Kirkness report experiments to test the accuracy of Bert's hypothesis regarding the formation of lactose from glucose. Their experiments were negative.—*Biochem. J.*, Liverpool, 1907, v. 2, pp. 1-6.

Porcher, C., (*Rev. Gén. Lait.* 6, 1906, Nos. 3, pp. 49-56; 4, pp. 73-85) describes various methods employed for the determination of lactose in milk and concludes that the most generally acceptable method consists in treating the milk with mercuric nitrate and titrating against Fehling's solution.—*Exp. Sta. Rec.*, 1907-8, v. 18, pp. 810-811.

Hankey, W. T., asserts that the milk sugar that we get, usually yields from 0.01 to 0.02 per cent of ash; very rarely 0.025 per cent. This is just one-tenth of the amount allowed in the U. S. P. He suggests that the standard be raised to 0.025 per cent of residual ash.—*Am. Drug.*, N. Y., 1907, v. 50, p. 9.

Seoville, W. L., states that all samples examined contained appreciable quantities of free lactic acid and casein, but will pass U. S. P. tests.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 327.

Gausby, R. A., reports one lot of milk sugar containing powdered glucose.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 79.

Caspari, Chas. E., (com. on adulterations) examined 9 samples, 8 satisfactory; 1 contained metallic impurities.—*Proc. Missouri Pharm. Ass.*, 1907, p. 143.

Gilmour, J. P., examined 14 samples, all Ph. Brit., though some seemed to exceed the limit for lactic acid.—*Year Book Pharm.*, Lond., 1907, pp. 446-455.

Arrous, J., (*Compt. rend. soc. biol.* 62, 845-47) asserts that all the sugars are true diuretics.—*Chem. Abstr. Am. Chem. Soc.*, 1907, v. 1, p. 2141.

SAFROLUM.

Schimmel & Co. (*Semi-Ann. Rep.*, October, 1907, p. 102) note that the U. S. P. corrections up to June 1, 1907, provide that safrol should have a sp. gr. of 1.098 to 1.100 at 25° C.

SALES.

Cuman, Geo. C., discusses the making of granular effervescent preparations and presents a number of type formulas for mixtures of this kind.—*Pharm. Era*, N. Y., 1907, v. 37, p. 106-107. (See also *Merck's Rep.*, 1907, v. 16, pp. 99-102.)

An editorial discusses the preparation of effervescing granules, and asserts that pharmacists need have no more difficulty in turning out medicated granules satisfactorily than they have in the making of pills.—*Pharm. J. Lond.*, 1907, v. 24, p. 194.

Vanderkleed and Turner (Merck's Rep., 16, 104-106) report on the examination of a number of samples of "granular, effervescent, caffeine hydrobromide." These were prepared from tartaric acid, crystallized citric acid, sodium bicarbonate and sugar. Well-known methods for the analysis of each of the constituents were employed, care being taken to select the one most applicable to the case.

SALICINUM.

Dott, D. B., points out that the solubility of salicin as given in the Ph. Brit. (1 in 28 parts water) seems to be practically correct. The solubility at 25° C. he finds to be 1 in 24 parts of water. The U. S. P. gives the solubility as 1 in 21 parts of water at that temperature.—Pharm. J. Lond., 1907, v. 24, p. 79.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 40) have usually found salicin to melt between 197° and 204° C.

SANGUINARIA.

Henkel, Alice, describes and figures *Sanguinaria canadensis* L., commonly known as blood-root, red-root, puccoon, red Indian-plant, puccoon-root, coon-root, white puccoon, pauson, snakebite, sweet-slumber, tetterwort and tumeric.—Bul. Bur. Plant Ind., U. S. Agric. Dept., 1907, No. 107, pp. 40-41.

Vanderkleed, Charles E., reports 6 assays of sanguinaria ranging from 2.370 to 6.330 per cent. Quality generally very good.—Proc. Pennsylvania Pharm. Ass., 1907, p. 90.

Patch, E. L., examined 3 samples ranging from 5.16 per cent to 5.60 per cent.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 324.

Kinyon, C. B., points out that "sanguinaria canad" is useful as a remedy when "menstruation is too early and too profuse with a discharge of black blood. When menses are regular they are too profuse. In cases of scanty menstruation or suppression look out for lung troubles. Headache is frequently relieved by the patient lying on the floor and holding her head firmly pressed against the floor with both hands pressing on the vertex and over the right eye. This position is characteristic of sanguinaria."—Tr. Am. Inst. Homœop., 1907, 63d session, p. 391.

Rosenberger, A. S., points out that in his experience sanguinaria has proven efficacious in the cough which was worse at night, awakens the patient who has to sit up and eructate gases up and down.—*Ibid.*, p. 420.

SANTONINUM.

Klein, Joseph, discusses the constitution of santonin and the production of bromine compounds.—Ber. d. deutsch. chem. Gesellsch. Berl., 1907, v. 40, pp. 937-942.

Wedekind, E. (Univ. Tübingen, Pharm. Arch., 244, 623-639), discusses thoroughly the formulas for santonin which have been submitted by other chemists.—Chem. Abstr. Am. Chem. Soc., v. 1, p. 1044.

Blome, Walter H., (com. on adulterations) reports santonin with abnormally low melting points.—Proc. Michigan Pharm. Ass., 1907, p. 70.

Boos, J. V. D., (Pharm. Weekbl., 1907, v. 44, p. 1478) believes that the criticism by Schoorl on the reactions for santonin in the Ph. Ndl. IV are not justified.—Jarhesb. d. Pharm. Göttingen, 1907-8, v. 42, p. 241.

Reichard, C., discusses the reactions for santonin and the identifications of this lactone. He asserts that one of the best known color reactions of santonin is the violet-red solution which it yields when warmed with an alcoholic solution of potassium hydroxide. It is best obtained by heating a little santonin with alcohol and adding a few crushed fragments of caustic potash, shaking and again heating. The color is not permanent, but in the course of a few hours changes to an intense yellow.—Pharm. Ztg., Berl., 1907, v. 52, pp. 88-89.

Drake, D. J., (J. of Trop. Med. and Hygiene, Lond., Nov. 1) reports a comparison of the treatment of dysentery by means of santonin, and by other means, including the use of bismuth, ipecacuanha and other drugs, and states that the average duration of the disease was less, and the death rate much lower, in those cases in which the santonin was used.—J. Am. M. Ass., 1907, v. 49, p. 21-24.

Still, G. F., (Clin. J., Lond., Apr. 24) states that threadworms are so commonly the cause of enuresis that it is advisable to give one dose of santonin with calomel even when the presence of threadworms is denied.—J. Am. M. Ass., 1907, v. 49, p. 90.

SAPO.

Alpers, William C., presents a lengthy paper on the history and the uses of soap in pharmacy and medicine in which he reviews the history of the origin of soap and its early recognition in pharmacopœias as an article having medicinal uses.—Am. J. Pharm., Phila., 1907, v. 79, pp. 212-217. (See also J. Soc. Chem. Ind., Lond., 1907, v. 26, pp. 594-595.)

Lewkowitsch, J., reviews some of the more modern theories on the constitution of soap.—J. Soc. Chem. Ind., Lond., 1907, v. 26, pp. 590-593. (See also Ztschr. f. ang. Chem., Berl., 1907, v. 20, pp. 951-957.)

Marcusson, J., discusses the theory of saponification as proposed by Kremann, Lewkowitsch, and others. Following the experiments recorded by Lewkowitsch he has failed to find any evidence of the presence of mono or diglycerides.—Ber. d. deutsch. chem. Gesellsch., 1907, v. 40, III, pp. 2905-2915.

Rohland discusses the action of the hydroxyl ions in the production of soap.—Chem. Ind., Berl., 1907, v. 30, pp. 559-561.

Fischer, Ernest, discusses the communication by Rohland, and points out that the process of saponification introduces a large number of interesting problems and questions that are as yet unanswered.—*Ibid.*, pp. 551-563.

Stritor and Fanto present a study on the theory of the process of saponification.—Monatsh. f. Chemie, Wien, 1907, v. 28, pp. 383-396.

Jönsson, C. H. T., presents observations on the soap industry in America and discusses the nature and origin of some of the raw materials used.—Chem. Ztg., Cöthen, 1907, v. 31, pp. 242-243.

An unsigned article on the manufacture and character of soap discusses the more or less unavoidable impurities: (1) Free alkali; (2) unsaponified fats; (3) glycerin; (4) water, and makes suggestions as to limitations.—Brit. Food J., Lond., 1907, v. 9, pp. 37-39.

Hoffman, A., (Bull. soc. ind. Rouen, 2, 133-40, 1907) discusses the investigation of Mercklen upon the constitution of commercial soaps.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 2416.

Cripps, R. A., presents a note on the official soaps and gives the results of his analysis in the form of a table. He points out that it is the custom of the makers of both "hard soap" and "Castile soap" to use oils other than olive oil for their manufacture.—Pharm. J. Lond., 1907, v. 24, pp. 519-520.

Simmons, W. H., calls attention to the useful information to be derived from the determination of the refractive index of the fatty acids of soap.—Chem. and Drug., 1907, v. 60, p. 869.

Joyce, T. G., points out the desirability of providing tests for the oil from which the soaps are made. It has been rumored that large quantities of stearin are shipped annually from America to the makers of Castile soap, and it would appear worth while to insure that olive oil, and olive oil alone, shall be used where olive oil is intended.—Pharm. J. Lond., 1907, v. 24, p. 580.

Hankey, W. T., believes that sufficient tests to determine the nature of the oil used in the manufacture of official soap should be included in the pharmacopoeial description.—Am. Drug., N. Y., 1907, v. 50, p. 9.

Mitchell, Edward, asserts that his firm has had much difficulty in securing a pure olive oil soap.—Proc. Arkansas Pharm. Ass., 1907, p. 91.

Seoville, W. L., points out that soft soap frequently contains an excess of caustic alkali. Always contains free carbonate alkali.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 330.

Patch, E. L., reports a sample which by the U. S. P. test required 4.5 cc. of N/10 oxalic acid equivalent to 0.5 per cent of KOH. By the neutral alcohol method the same sample gave 0.336 free KOH,

0.926 K_2CO_3 . Eight samples by the U. S. P. 1900 process tested by U. S. P. method of assay, gave from 0.25 to 0.5 per cent free KOH. Four lots of commercial by the neutral alcohol method gave 0.336 to 0.896 free KOH.—*Ibid.*, p. 330.

Vanderkleed, Charles E., (com. on adulterations) asserts that the value of powdered Castile soap depends, not only on purity, but on the amount of moisture present. Samples containing as much as 25 per cent of moisture have been noted.—Proc. Pennsylvania Pharm. Ass., 1907, p. 86.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, pp. 42, 43) give in a tabular form the melting point, iodine value, cotton-seed oil, sesame oil, and Reichert Meissl value of the various commercial soaps, and conclude that it is possible to obtain pure olive-oil soap on the market: that the mottled variety is often made from sesame oil and that "curd" soap of commerce usually contains 10 per cent and upward of cocoanut oil.

SAPO MOLLIS.

Caspari, Chas. E., (com. on adulterations) examined 8 samples of soft soap: 6, satisfactory, 2 contained excess of free alkali.—Proc. Missouri Pharm. Ass., 1907, p. 145.

Gilmour, J. P., found 13 samples to be of Ph. Brit. standard, though the alcohol insoluble residue tends to exceed 3 per cent with most samples.—Year Book Pharm., Lond., 1907, pp. 446-455.

van Itallie, E. J., outlines a method for the detection of fish oils in soft soap, based on the bromine absorption properties of the oil.—Apoth. Ztg., Berl., 1907, v. 22, p. 6.

Wilbert, M. I., presents a formula for a liquid soap that is said to be efficient and economical.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 119.

Stanislaus, I. V. S., presents several formulas for the preparation of liquid soaps.—Proc. Pennsylvania Pharm. Ass., 1907, p. 154.

Dreßs, W., discusses the use of liquid soap from a sanitary standpoint.—J. Soc. Chem. Ind., Lond., 1907, v. 26, pp. 596-597.

SARSAPARILLA.

Hartwitch, C., discusses the great uncertainty of our knowledge of sarsaparilla and points out that a number of distinctions formerly given much weight, have been altered materially in the course of time. He points out that the structural characteristics of sarsaparilla, rather than the form of packing and the supposed origin, are to be depended on to distinguish the several varieties of the drug. He also shows that the varieties of sarsaparilla are more numerous than is generally supposed.—Ber. d. pharm. Gesellsch., Berl., 1907, v. 17, pp. 250-271.

Gausby, R. A., reports finding a sample of Mexican sarsaparilla root which contained over 40 per cent sand.—Proc. Pennsylvania Pharm. Ass., 1907, p. 74.

Perrot, E., calls attention to the frequent adulteration of sarsaparilla with American smilax, *Smilax medica* of the south of France and other roots belonging to different families, even the dicotyledons.—Bull. d. sc. pharmacol., Par., 1907, v. 14, p. 349.

An unsigned article quotes Stevens, Caldwell, and 3 manufacturers as giving the percentage of alcohol in the official fluid extract of sarsaparilla as 31.5, 32, 45, 25, and 20, respectively.—Drug. Circ., N. Y., 1907, v. 51, p. 319.

SCAMMONIUM.

Nelson, Burt E., describes scammony, gives its origin and calls attention to the appearance of its constituents.—Merck's Rep., N. Y., 1907, v. 16, p. 220.

Dohme and Englehardt call attention to a resin from *Radia scammonia mexicana* or *Radia orizabensis*, which, although not as soluble in ether and chloroform as the resin made from scammony, has the same therapeutic value.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 381.

Perrot, E., says that true scammony has a residue of 60 to 70 per cent, but that which has a residue of 30 to 40 per cent has nothing in common with the juice of *Convolvulus scammonia*.—Bull. d. sc. pharmacol., Par., 1907, v. 14, p. 351.

Caspari, Chas. E., (Com. on Adulterations) examined 2 samples; 1 satisfactory, 1 yielding too much ash.—Proc. Missouri Pharm. Ass., 1907, p. 146.

Gilmour, J. P., found 9 samples to be of Ph. Brit. standard, though some were not entirely soluble in ether.—Year Book Pharm., Lond., 1907, pp. 446-455.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 41). report three parcels of "Virgin" which contained, respectively, 83 per cent, 88.5 per cent, and 82.8 per cent of resin extracted by ether.

SCILLA.

Nelson, Burt E., describes and figures the structural characteristics of scilla.—Merck's Report, N. Y., 1907, v. 16, p. 162.

An abstract calls attention to the article by Houghton on the new U. S. P. fluid extract of squill, and points out that it would seem desirable that physicians in prescribing squill should indicate that they desire the preparation of the U. S. P. 1890, when they wish to obtain the usual therapeutic action of squill.—Drug Topics, N. Y., 1907, v. 22, p. 99.

Greenish, Henry G., reviews the pharmaceutical preparations of squill included in B. P. C., and presents a formula for liquid extract of squill; also formulas for vinegar, syrup, and tincture of squill.—Pharm. J. Lond., 1907, v. 25, p. 99.

Cohn, Alfred L., points out that in the directions for making the compound syrup of squills, no account has evidently been taken of the fact that the fluid extract of squill is made with acetic acid, while the fluid extract of senega is made with a menstruum containing potassium hydroxide. To prevent precipitation of the polygalic acid he thinks it advisable to have the preparation alkaline.—Proc. New York Phar. Ass., 1907, p. 235.

Joyce, T. G., presents a note on oxymel scillæ and suggests that more definite description be included in the Ph. Brit. for the finished product.—Pharm. J. Lond., 1907, v. 24, p. 744.

SCOPARIUS.

Perrot, E., says that the flowers of *Sarothamnus scoparius* are frequently adulterated with those of *Spartium junceum*. In spite of supervening accidents and his warnings, this dangerous substitution is quite current.—Bull. d. sc. pharmacol., Par., 1907, v. 14, p. 348.

SCOPOLA.

Dohme, A. R. L., discusses the practicability and need for the use of scopola in place of belladonna and points out that the U. S. P. revision committee could sanction the use of scopola as belladonna without violation of any principles or establishing a new precedent.—Proc. Am. Pharm. Ass., 1907, v. 55, pp. 502-504.

An editorial points out that some years ago the opinion was strong that scopola was a most efficient substitute for belladonna. It appears, however, that manufacturers making preparations requiring belladonna refuse to look upon scopola as an equal, and consider it as an adulterant and not as a substitute. They declare that it does not have the properties of belladonna. Even with the scarcity of the true article, they refuse to employ the so-called bastard belladonna.—Pacific Pharm., San Francisco, 1907-8, v. 1, p. 87.

SCOPOLAMINÆ HYDROBROMIDUM.

An unsigned review of the Ph. Ndl. IV points out that scopalamine is considered to be identical with hyoscyne, despite their variation of origin and the fact that they are separately listed by some manufacturers.—Pharm. Weekbl., 1907, v. 44, p. 1385.

Reichard, C., points out that it has now been established beyond any peradventure of doubt that scopolamine is identical in all

respects with hyoscine, and outlines a number of reactions that are characteristic of this substance.—*Pharm. Zentrallh.*, 1907, v. 48, pp. 659–664.

Riedel, J. D. (*Pharm. Zeit.*, LII, p. 292), finds that scopolamine picrate forms narrow, rather long tablets or needles melting at 190 to 191° C.—*Merck's Report*, N. Y., 1907, v. 16, p. 291.

Kessei, Otmar G. (*Arch. intern. pharmacodyn.*, 16, I, *Pharmacol. Inst.*, Jena), asserts that the physiological action of inactive and active scopolamine is alike. The inactive alkaloid can be used for therapeutic purposes as well as the active. The harmful effects observed from the use of individual samples of scopolamine are due to an admixture with apoa tropine.—*Chem. Abstr. Am. Chem. Soc.*, 1907, v. 1, p. 60.

Chevalier, before the Société de Thérapeutique, reviewed the question of the toxicity of scopolamine and reported an observation of great interest. Dubar, suffering from asthmatic crises, administered to himself a hypodermic injection of 0.0005 gm. scopolamine hydrobromate, had vertigo, and was obliged to go to bed; slept, but was delirious and presented grave convulsive phenomena with hallucinations of sight. It was only after 12 hours that the symptoms disappeared.—*J. de pharm. et de chim. Par.*, 1907, v. 26, p. 516.

Bardet discusses the dangers of scopolamine for general anaesthesia.—*Répert. de pharm. Par.*, 1907, v. 19, p. 521.

Moore, A. W., reports a case of poisoning in a child of 4½ years resulting from 1 drop of a 1 per cent solution of scopolamine in the eye. The symptoms included restlessness, pleasant delirium, and finally deep sleep.—*Lancet*, Lond., 1907, v. 172, p. 1084.

Heizer, W. L., is reported to have said that scopolamine and hyoscine are practical identical, and that the scopolamine-morphine combination had been found to be dangerous for anaesthesia.—*J. Am. M. Ass.*, 1907, v. 49, p. 1551.

The editor details the technic of Gauss for the administration of scopolamine-morphine for anaesthesia, in response to a query.—*Ibid.*, p. 1299.

Wood, H. C., jr., in answer to a query, reiterates his assertion that scopolamine-morphine anaesthesia is dangerous, and that hyoscine is identical with scopolamine and has little or no analgesic action.—*Ibid.*, v. 48, p. 159.

Abbott, W. C., calls attention to Wood's condemnation of scopolamine-morphine anaesthesia, and states that he has also condemned the use of scopolamine, but that hyoscine is quite different from scopolamine.—*Ibid.*, pp. 344–345.

An editorial comments on Abbott's letter, and states that the identity of scopolamine and hyoscine is no longer a question among scientific men, and further no amount of juggling can conceal the

fact that "hyoscin-morphin" anesthesia is fraught with great danger.—*Ibid.*, v. 48, pp. 344-345.

Bryant, Edgar R., presents a report of personal experience with scopolamine-morphine and spinal anesthesia and asserts that scopolamine is a harmless drug when administered in ordinary doses, and when investigating the adverse reports as to scopolamine-morphine, morphine alone, or possibly the combination of morphine and scopolamine should receive careful attention.—Tr. Am. Inst., Homœop., 1907, 63d session, pp. 662-675.

SENEGA.

Henkel, Alice, describes and figures *Polygala senega* L., commonly called Seneca snakeroot, senega, senega snakeroot, Seneca-root, rattle-snake-root and mountain-flax.—Bul. Bur. Plant Ind., U. S. Dept. Agric., 1907, No. 107, pp. 45-47.

Holm, Theo., discusses the history of Seneca snakeroot and describes and figures the root and other portions of the plant.—Merck's Report, N. Y., 1907, v. 16, pp. 155-157.

Farwell, O. A., asserts that the hard, woody, keelless roots of *Polygala alba* Nutt, are often offered as a substitute for the official senega. He does not believe that the Manitoba senega is the product of *Polygala alba* Nutt, as this drug has the characteristic keel-like ridge of the official senega and is derived from both the official *Polygala senega* and the broad-leaved form sometimes separated as the var., *latifolia* T. & G.—*Ibid.*, v. 16, p. 221.

Currie, A., concludes that precipitation in infusion of senega is due directly or indirectly to the action of bacteria.—Pharm. J. Lond., 1907, v. 24, p. 359.

Kinyon, C. B., points out that Senecio was called by the late Doctor Streeter the great female regulator. Unlike pulsatilla, the courses may be too profuse, premature, but the great indication for this remedy is irregular menstruation or suppressed menstruation followed by vicarious menstruation.—Tr. Am. Inst. Homœop., 1907, 63d session, p. 391.

SENNA.

Hankey, W. T., found good senna leaves to yield, on ignition, 8.5 to 9 per cent ash; 12 samples of powdered senna yielded from 10.50 to 24.60 per cent of ash. He believes that the addition of a limit for ash might be advisable.—Am. Drug., N. Y., 1907, v. 50, p. 9.

Dawson, Edward S., reports his experience with fluid extract of senna. He comments on the quantity of alcohol required to make this preparation, and expresses the opinion that it will not become popular for economic reasons.—Proc. N. Y. Pharm. Ass., 1907, p. 225.

An unsigned article quotes Stevens, Caldwell, and three manufacturers as giving the percentage of alcohol in the official fluid extract of senna as 48.9, 43, 50, 40, and 30 per cent, respectively.—Drug. Circ., N. Y., 1907, v. 51, p. 319.

SERPENTARIA.

Henkel, Alice, describes and figures *Aristolochia serpentaria* L., commonly known as Virginia serpentaria, Virginia snakeroot, serpentary, snakeweed, pelican-flower, snagrel, sangrel, sangree-root, Virginia serpentaria, also *Aristolochia reticulata* Nutt., the Texas serpentaria.—Bull. Bur. Plant Ind., U. S. Dept. Agric., 1907, No. 107, pp. 26–27.

Holm, Theo., describes and figures *Aristolochia serpentaria* L., including the histological structure of the several portions of the plant.—Merck's Report, N. Y., 1907, v. 16, pp. 276–279.

SERA.

Otto, R., (Arb. K. Inst. Expt. Ther. Frankfurt, 1906, No. 2, pp. 86, figs. 8) gives an account of the commercial manufacture of antitoxic and antibacterial sera, together with historical notes on the development of a method for the government control of these products. The present report contains a detailed discussion of the routine method by which commercial concerns obtain permission to sell their sera under government inspection, and also of the methods adopted for this examination. In order to be considered harmless, sera must be shown to be clear, free from gross precipitates, bacterial contamination, and toxins.—Exp. Sta. Rec., 1907, 1908, v. 19, p. 78.

Brunner and Pinkus describe a new process for the purification of therapeutic sera, especially diphtheria serum.—Biochem. Ztschr. 1907, v. 5, pp. 381–393.

Banzhaf and Gibson (Research Lab. Dept. Health of the City of New York J. Biol. Chem., 3, 253–263) present some data on the fractional precipitation of antitoxin serum.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 2717.

Besredka, A., discusses the toxicity of therapeutic serum and the means of estimating it.—Compt. rend. Soc. de Biol., Par., 1907, v. 62, p. 477.

Manwaring, W. H., (J. Biol., Chem., 3, 387–389) asserts that quantitative methods for determining amboceptors are impossible.—*Ibid.*, v. 2, p. 282.

An editorial calls attention to the work of Rosenau and Anderson (Public Health and Marine-Hospital Service, Hygienic Laboratory Bulletins No. 29 and No. 36), in which they showed that injections of proteids from different sources caused hypersensitiveness, but leucin and tyrosin have no such sensitizing influence. The sensitizing agent

and its mode of action are as yet unknown, but it is not influenced by the various ferments and alkaloids which were tried.—*J. Am. M. Ass.*, 1907, v. 49, p. 602.

Gay and Southard (*J. Med. Research*, Bost., May) advance a theory in regard to the remarkable susceptibility to horse serum of guinea-pigs which have been previously injected with small quantities of horse serum. They describe a number of lesions associated with the intoxication produced.—*Ibid.*, v. 49, p. 281.

An editorial calls attention to the recent work of Richardson who studied the treatment of typhoid fever by means of specific serum and with material from cultures of typhoid bacilli.—*Ibid.*, v. 49, p. 1922.

An editorial calls attention to the work of the commission of the New York Department of Health with the use of a serum in the treatment of monkeys experimentally infected with *Diplococcus intracellularis*.—*N. York M. J.*, 1907, v. 85, p. 893.

Pollitzer, S., discusses Serum Therapy and the Serum Diagnosis of Syphilis.—*Ibid.*, v. 85, p. 976.

For additional references on sera and their uses see *Index Medicus* and the *J. Am. M. Ass.*

SERUM ANTIDIPHThERICUM.

Pearson, W. A., outlines the standardization of diphtheria antitoxin and calls attention to the need for care in storing this preparation.—*Proc. Pennsylvania Pharm. Ass.*, 1907, pp. 233–236.

An unsigned article presents some additional proofs of the stability of diphtheric antitoxin. A total of 23 samples of serum varying in strength from 500 to 4,000 units and in age from 23 to 46 months were found to be practically of the same test as when originally examined.—*New Idea*, Detroit, 1907, v. 29, pp. 372, 376.

Maggiore, R., contributes a study on the control of antidiphtheric serum.—*Arch. farmacol. sper. Roma*, 1907, v. 6, pp. 344–356.

An editorial discusses the oral administration of antitoxin and points out that if any method can be devised by which fairly accurate and reliable results can be obtained from the oral use of these substances a distinct therapeutic advance will be made.—*Therap. Gaz.*, Detroit, 1907, v. 31, p. 29.

Rosenau and Anderson report observations on the influence of antitoxin upon postdiphtheric paralysis. They find that a very small quantity of antitoxin (1 unit) given twenty-four hours before or at the time of infection prevents the development of paralysis, whereas 4,000 units fails when delayed forty-eight hours.—*Bull. Hyg. Lab. U. S. P.-H. & M.-H. S.*, No. 38, pp. 34, June, 1907.

Harris, Alfred, describes certain forms of pharyngeal diphtheria which are invariably fatal, and upon which antitoxin has no effect.—*Lancet*, Lond., 1907, v. 173, p. 896.

Bolton, Charles, states that when antitoxin is administered on the first day of an attack of diphtheria the mortality is only one-half of 1 per cent, but that it is useless when given after the fifth day of the disease. In severe cases as much as 24,000 units must be given and this may have to be repeated.—*Ibid.*, v. 172, p. 871.

An editorial calls attention to the occurrence of post-diphtheritic paralysis and the possibility of antitoxin being concerned and states that the recent work of Rosenau and Anderson is very suggestive at least.—*J. Am. M. Ass.*, 1907, v. 49, p. 855.

Fonde, G. H., states that in severe cases of diphtheria he has found it necessary to give as high as 50,000 units of antitoxin. He states that it seldom fails if enough is given.—*Ibid.*, v. 49, p. 1697.

Norton, Everitt E., reports the occurrence of an epidemic of diphtheria among the children of a school which persisted until the prophylactic use of antitoxin stopped it.—*Lancet*, Lond., 1907, v. 173, p. 85.

Brown, Allen, and Lupton state that immunizing doses of antitoxin should be given at intervals of two weeks for four or six weeks in case of epidemics of diphtheria in institutions.—*Am. J. M. Sc.*, Phila., 1907, v. 133, pp. 297-302.

Additional references on the use of diphtheria antitoxin will be found in the *Index Medicus* and the *J. Am. M. Ass.*

SERUM ANTITETANICUM.

An editorial calls attention to the work of the Hygienic Laboratory looking to the standardization of tetanus antitoxin and states that with the adoption of the new standard and accurate dosage this serum will be made available for therapeutic and prophylactic uses.—*J. Am. M. Ass.*, 1907, v. 48, p. 1680.

Hall, Carter, and Howard each cite an instance of the successful treatment of tetanus with antitetanic serum.—*Brit. M. J.*, 1907, v. 1, pp. 555-556.

An editorial calls attention to the value of tetanus antitoxin as a prophylactic against tetanus and states that a scrutiny of the American literature does not show a single case in the past five years in which the early prophylactic use of antitoxin was followed by tetanus. Even when tetanus develops after a prophylactic dose of antitoxin the chances of recovery are improved.—*J. Am. M. Ass.*, 1907, v. 49, p. 602.

Vincent, H., makes a contribution on the properties of mixtures of tetanic toxin and antitoxin. He found in experiments with small laboratory animals that tetanus antitoxin does not protect the animal against the development of an artificial infection even if administered within 1 hour after the animal has been removed from an

autoclave maintained at a temperature sufficiently high to elevate the body temperature of the experimental animal.—Compt. rend. Soc. de Biol. Par., 1907, v. 62, pp. 158–160; 1193–1195. (See also a further note by Louis Martin, *Ibid.*, v. 62, p. 178. See also a further note by Cernovodeanu & Henri, *Ibid.*, v. 62, p. 392; 669–671; 812–815.)

Küster, E., discusses the antitoxin treatment of tetanus, reports one case treated with intraneural injections and presents some general observations.—Therap. d. Gegenw., Berl., 1907, v. 48, pp. 49–52.

Senn, Nicholas, discusses the Final Triumph of Scientific Medicine, and cites the use of tetanus antitoxin and other measures by which man triumphs over disease.—J. Am. M. Ass., 1907, v. 48, pp. 1825–1830.

For additional references see Index Medicus and the J. Am. M. Ass.

SINAPIS ALBA.

Mühlenfeld, Wilh., outlines a method for the valuation of Sinapis alba. He treats the fixed oil free and powdered seed with water for several hours, extracts the mixture with ether; after allowing the latter to evaporate at ordinary temperature, he exhausts the residue with alcohol and titrates as directed by the Ph. Germ. IV for sinapis nigra.—Apoth. Ztg. Berl., 1907, v. 22, p. 943.

SODII ARSENAS.

Fernau, Albert, discusses the chemistry and the methods that have been suggested for analyzing sodium arsenate and sodium arsenite and reports two samples of the latter substance that proved, on examination, to be sodium arsenate.—Pharm. Post, Wien, 1907, v. 40, p. 133.

Alfred, Wilfrid A., relates the circumstances of poisoning with a mixture of arsenic and caustic soda, sold as weed killer, presenting some unusual symptoms.—Brit. M. J., 1907, v. 2, p. 626.

SODII BICARBONAS.

Bachman, Gustav, (com. on adulterations) reports sodium bicarbonate ranging from 99 per cent to 91.3 per cent instead of 99 per cent as required by the U. S. P.—Proc. Minnesota Pharm. Ass., 1907, p. 40.

Caspari, Chas. E., (com. on adulterations) examined 17 samples, 15 satisfactory, 2 contained excess of carbonate.—Proc. Missouri Pharm. Ass., 1907, p. 143.

Blome, Walter H., (com. on adulterations) reports 2 samples having trace of iron and a slight excess of carbonate.—Proc. Michigan Pharm. Ass., 1907, p. 70.

Patch, E. L., examined 5 samples varying from 94.36 per cent to 96.31 per cent.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 330.

Gilmour, J. P., found 87 samples to be of Ph. Brit. standard; none, however, withstood the HgCl_2 test.—Year Book Pharm., Lond., 1907, pp. 446-455.

The inspectors of pharmacies found sodium bicarbonate containing traces of ammonium salts and of neutral carbonate.—Ann. de pharm. Louvain, 1907, v. 13, p. 325.

Philipp Röder (Jahresbericht, Wien, 1907, p. 92) reports that of 10 samples of sodium bicarbonate examined, 2 were rejected because of an excess of monocarbonate.

An editorial calls attention to the want of proper consideration of the pharmacology of bicarbonate of soda, which has been long used for gastric pain and hyperacidity, and to a paper by Léon Meunier in the *Bulletin des Sciences Pharmacologiques*, 1906, No. 10, in which the value of the remedy in allaying gastric pain is discredited. The allaying of gastric pain, it is asserted, is due not so much to the neutralizing action of the alkali as it is to the generated carbon dioxide.—Lancet, Lond., 1907, v. 172, p. 179.

Rozenblat, Henryka, reports experimental researches on the action of sodium chloride and sodium bicarbonate on the gastric secretion.—Biochem. Ztschr., 1907, v. 4, pp. 500-541.

Lambert & Foster state that bicarbonate of soda should be discarded for some of the alkaline salts, particularly magnesium oxide, to neutralize the gastric juice in case of benign stenosis of the pylorus.—Am. J. M. Sc., Phila., 1907, v. 134, p. 347.

SODII BORAS.

Yale, Charles G., asserts that the production of borax is almost entirely confined to the State of California, and to the counties of San Bernardino, Inyo, and Ventura in that State.—J. Frnkl. Inst., Phila., 1907, v. 163, pp. 107-108.

Kline and Graham point out that commercial varieties of borax are of U. S. P. strength and purity for all practical purposes, but that they are liable to contain a very diminutive amount of such impurities as iron and aluminum, chlorides, and sulphates.—Proc. Pennsylvania Pharm. Ass., 1907, p. 83.

Rupp, E., discusses the use of sodium biborate as a standard for titrimetric solutions, points out some of its defects and outlines methods for its successful application.—Chem. Ztg., Cöthen, 1907, v. 31, p. 97.

Caspari, Chas. E., (com. on adulterations) examined 13 samples, 12 satisfactory, 1 contained phosphate.—Proc. Missouri Pharm. Ass., 1907, p. 144.

The New York State Board of Health, Eastern Branch, examined 93 samples, 74 deficient.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 324.

Baird, J. W., (com. on adulterations) reports on 7 samples, 4 genuine, 3 adulterated.—Proc. Massachusetts Pharm. Ass., 1907, p. 40.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 12) have also occasionally found six parts of arsenium per million in this article.

An editorial comments on the many and varied properties and uses of borax.—Paint, Oil and Drug Rev., Chicago, 1907, v. 43, Jan. 9, p. 15.

An editorial calls attention to the efforts being made to popularize the use of borax as a food preservative. Attention is called to the use of borax to give a fresh appearance to decayed and wholly inedible meat.—J. Am. M. Ass., v. 49, p. 1191.

McWalter, J. C., (Lancet, Lond., Aug. 10) reports a case of progressive wasting and erythematous eruption occurring in an infant which had developed a taste for borax and honey. When the use of the borax mixture was discontinued rapid improvement began.—J. Am. M. Ass., 1907, v. 49, p. 881.

SODII BROMIDUM.

Hankey, W. T., reports on sodium bromide which tested 89.65 per cent sodium bromide and 10.35 per cent of sodium chloride and carbonate. The alkalinity was 7 times that allowed by the U. S. P.—Proc. Pennsylvania Pharm. Ass., 1907, p. 86.

Weinstein, Joseph, reports finding deviations of from 8 to 10 per cent from the U. S. P. requirements for sodium bromide.—Proc. New York Pharm. Ass., 1907, p. 102.

The New York State Board of Health reports 13 samples examined; 2 deficient.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 331.

Caspari, Chas. E., (Com. on Adulterations) examined 11 samples; 7 satisfactory, 4 contained excess of chloride.—Proc. Missouri Pharm. Ass., 1907, p. 143.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 43) found one sample to be particularly impure, only testing 85.6 per cent of NaBr. Two further lots contained 96 per cent and 96.2 per cent, whilst a fourth was pure.

SODII CARBONAS MONOHYDRATUS.

Jurisch, Conrad W., presents a history of the evolution of the ammonia-soda industry, in the course of which he describes and figures the methods of procedure and some of the apparatus used.—Chem. Ind., Ber., 1907, v. 30, pp. 6-13; 36-46; 174-190.

Xrayser gives some additional data regarding LeBlanc's soda process, and discusses the claims that have been made for Diže's.—Chem. & Drug. Lond., v. 70, p. 295.

Sayre, L. E., examined two samples of sodium carbonate which contained 32.2 and 17 per cent of water, respectively.—Bull. Kansas Bd. Health, 1907, p. 12.

Mossler, Gustav, examined 6 samples of sodium carbonate, all of which contained chloride, but only 2 of them in excess.—Ztschr. d. Allg. österr. Apoth.-Ver., Wien, 1907, v. 45, p. 38.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 44) found the proportion of sodium carbonate to range from 70 to 99.4 per cent.

SODII CHLORIDUM.

Gilmour, J. P., found in 14 samples of Ph. Brit. standard traces of potassium and magnesium salts.—Year Book Pharm., 1907, pp. 446-455.

Raubenheimer, Otto, suggests the use of a decinormal volumetric solution of sodium chloride in place of physiological normal salt solution. This would avoid the need of keeping two distinct preparations on hand.—Bull. Pharm., 1907, v. 21, p. 514.

The editor notes that the authorities seem to be divided on the subject of physiological normal salt solution. Some chemists give 6 grammes to the liter as the proper strength, while others maintain that 9 grammes is more correct. Since the commercial houses are using 9 grammes of salt for every 1,000 cc. of this preparation, the Bulletin chose to accept the greater figure rather than the less.—*Ibid.*, v. 21, p. 514.

Löwenstein, C., discusses the relations of table salt ingestion and blood pressure in cases of nephritis.—Arch. f. exper. Path. u. Pharmacol., Leipz., 1907, v. 57, pp. 137-161.

Bayer, R., discusses the influence of sodium chloride on arteriosclerotic hypertonia, and concludes that while sodium chloride causes rise of blood pressure in cases of arteriosclerosis and many forms of myocarditis, the way in which this hypertonia is effected is as yet unknown.—*Ibid.*, v. 57, pp. 162-176.

Kinyon, C. B., points out that "natrum muriaticum" is indicated where "patient is constipated, emaciated, easily fagged out. Before menstruation is gloomy and anxious. Violent headache on waking up in the morning. After menstruation patient is hasty and irascible."—Tr. Am. Inst. Homœop., 1907, 63d session, p. 389.

Fornias, Eduardo, points out that "natrum muriaticum" is a remedy which has an extensive application in the homœopathic school, and that it is one of the drugs reproved successfully at

Vienna. He reviews some of the more recent publications on sodium chloride, and concludes that the recorded observations allow us to infer that *chloride of sodium*, when absorbed in excess of the normal requirements of the body, causes many digestive, cardio vascular, and respiratory phenomena indicative of "destructive metabolism, with great impairment of the blood life."—Hahnemann. Month., Phila., 1907, v. 42, p. 121. (See also abstract (from N. A. Journal of Hom.) *Ibid.*, v. 42, p. 160.)

Fornias presents some additional observations on an analytic study of *natrum muriaticum* and on the therapeutics of *natrum muriaticum*.—*Ibid.*, v. 42, pp. 193–202; 250–266.

Additional references on the use of sodium chloride will be found in the Index Medicus and the J. Am. M. Ass.

SODII CITRAS.

Patch, E. L., examined 10 lots, 4 contained heavy metals, 1 an excess of alkali.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 331.

Prentiss (American Journal of Obstetrics, June, 1907) discusses the use of sodium citrate in infant feeding, and points out that it has been abundantly proved that not only can richer proteid milk be digested with its aid, but a larger quantity can be taken and assimilated.—Therap. Gaz., Detroit, 1907, v. 31, pp. 874–876.

Steele, H. Merriman, is reported to have reviewed the literature of sodium citrate in infant feeding, and given his experience in 14 cases. He agrees with Chapin that it is best to interfere as little as possible chemically with the infants' milk.—J. Am. M. Ass., 1907, v. 48, p. 2203.

Additional references on the use of sodium citrate will be found in the Index Medicus and the J. Am. M. Ass.

SODII HYDROXIDUM.

Murray, Benjamin L., asserts that in testing sodium hydroxide for limit of silicate it is probable that 90 per cent alcohol will detect the silicate sufficiently well. The use of 95 per cent alcohol, as at present, conflicts with the test for limit of carbonate, since an article meeting the requirement for limit of carbonate will yield a precipitate of carbonate, not silicate, with 95 per cent alcohol. This is overcome by using 90 per cent alcohol.—Merck's Rep., N. Y., 1907, v. 16, p. 249.

Walter, Heinrich, reports observations on the influence of several factors entering into the production of sodium hydroxide.—Monatsh. f. Chemie, Wien, 1907, v. 28, pp. 543–553.

Wegschneider, Rud., comments on the observations made by Walter, and points out that these observations agree well with the recorded

experiences of Lunge-Schmid, and Le Blanc-Novotny, and that the production of caustic soda is most readily accomplished at or above 100° C.—*Ibid.*, v. 28, pp. 554–558.

SODII HYPOPHOSPHIS.

Blome, Walter H. (com. on adulterations), reports one lot of sodium hypophosphite of very poor quality. Another contained a trace of sodium hydroxide and a third sodium carbonate and aluminum.—Proc. Michigan Pharm. Ass., 1907, p. 70.

SODII IODIDUM.

Caspari, Chas. E. (com. on adulterations), examined 8 samples, 7 satisfactory; 1 contained iodate.—Proc. Missouri Pharm. Ass., 1907, p. 144.

The inspectors of pharmacies report finding samples of sodium iodide that were yellow or partially deliquesced.—Ann. de pharm. Louvain, 1907, v. 13, p. 328.

SODII NITRAS.

A news note asserts that nitrate of soda imports are unequal to the demand. The total imports into Atlantic ports for 1907 amounted to 221,345 tons, against 177,500 tons in 1905.—Oil, Paint, and Drug Reporter, New York, 1907, v. 72, Sept. 9, p. 38.

Van Dam, U. (Rec. Chim. Pays-Bas et Belg. 25, 1906, pp. 291–296) presents a method for the determination of nitrogen in nitrate of soda based upon the oxidation of oxalic acid by the nitrate in presence of manganese sulphate, with subsequent determination of the excess of oxalic acid by titration with potassium permanganate.—Expt. Sta. Rec., 1906–7, v. 18, p. 708.

SODII NITRIS.

Vaquez, H., discusses the pharmacodynamic action of the alkaline nitrites, particularly sodium nitrite, and the variation in activity due to methods of administration or special susceptibility of the individual.—Nouv. rémedes, Par., 1907, v. 23, pp. 349–351.

Desesquelle, Ed., reports a favorable result with Raymond's method of administering hypodermic injections of sodium nitrite for the fulgurant pains of tabes: he reached without inconvenience a dose of 10 centigrammes per cc.—Bull. d. sc. Pharmacol. Par., 1907, v. 14, p. 413.

SODII PHENOLSULPHONAS.

Blome, Walter H., (com. on adulterations) reports sodium sulphocarbonate having an acid reaction.—Proc. Michigan Pharm. Ass., 1907, p. 70.

Caspari, Chas. E., (com. on adulterations) examined 4 samples, 3 satisfactory, 1 contained metallic impurities.—Proc. Missouri Pharm. Ass., 1907, p. 146.

SODII PHOSPHAS.

Mitchell, Edward, asserts that his firm has at last succeeded in obtaining a sodium phosphate that will make a satisfactory clear solution.—Proc. Arkansas Pharm. Ass., 1907, p. 91.

Troxell, H. L., (com. on adulterations) found several samples of the dried salt containing too much sulphate. The crystallized salt is by far the better.—Proc. Maryland Pharm. Ass., 1907, p. 87.

Baird, J. W., (com. on adulterations) reports on 20 samples, 18 genuine, 2 adulterated.—Proc. Massachusetts Pharm. Ass., 1907, p. 40.

Caspari, Chas. E., (com. on adulterations) examined 23 samples, 22 satisfactory, 1 contained calcium and arsenic.—Proc. Missouri Pharm. Ass., 1907, p. 145.

Gilmour, J. P., found in 5 samples of Ph. Brit. standard traces of sulphates and chlorides.—Year Book Pharm., Lond., 1907, pp. 446-455.

SODII SULPHAS.

van't Hoff and Barschall discuss the relation of potassium and sodium sulphate to each other.—Ztschr. d. physik. Chem., 1907, v. 56, pp. 212-214.

Gilmour, J. P., found in 34 samples of Ph. Brit. standard occasional traces of chloride.—Year Book Pharm., Lond., 1907, pp. 446-455.

Dauwe, O., records observations on the disintoxicating action of sodium sulphate in cases of acute lead poisoning.—Arch. internat. de Pharmacod. et de Therap., 1907, v. 17, pp. 418, 434.

Frankl, Theodor, discusses the several theories that have been advanced regarding the activity of saline laxatives, reports a number of observations, and concludes that solution of sodium sulphate injected into the circulation is not laxative and that the theories of Buehlheim and Hays regarding the method in which saline laxatives act are probably correct.—Arch. f. exper. Path. u. Pharmacol., Leipz., 1907, v. 57, pp. 386-398.

Bancroft, Frank W., reports some experiments on the relative efficiency of various methods for determining sodium sulphate, and presents a summary of his results in the form of a table. These results show clearly that the subcutaneous and intravenous administration of sodium sulphate increases markedly the amount of feces eliminated for some time after. When given by mouth this salt increases the amount of feces to an even greater extent.—Journ. Biol. Chem., N. Y., 1907, v. 3, pp. 191-211.

Maberly (Lancet, London, Nov. 10, 1906) discusses the intestinal antiseptic value of sodium sulphate.—Therap. Gaz., Detroit, 1907, v. 31, p. 111.

SODII SULPHIS.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 44) using excess of iodine solution find commercial samples to contain from 92 to 96 per cent of sodium sulphite.

Smith, E. E., is reported to have said that there was no evidence to show that the sulphites taken with the food as a preservative produced anemia, and that it was still a question whether any injurious action was exerted on the kidneys.

Wiley, Harvey W., discussed the paper of Doctor Smith, and said that manufacturers were constantly pleading the smallness of the dose of the preservative in extenuation of its use, but that the continuance of even small doses might occasion injury to the health. Doctor Wiley then cited facts to show the injuriousness of sulphites on the health.—N. Y. M. J., v. 85, pp. 92–93.

SODII THIOSULPHAS.

Gutmann, A., discusses the titrimetric determination of thio-sulphates in the presence of sulphites, and reports a number of experiments.—Ztschr. f. anal. Chem., Wiesb., 1907, v. 46, pp. 485–500.

Blome, Walter H., (com. on adulterations) reports on 3 samples: Contained, respectively, a large amount of potassium, some sulphite, and a little sulphide.—Proc. Michigan Pharm. Ass., 1907, p. 70.

Philipp Röder (Jahresbericht, Wien, 1907, p. 93) reports examining 3 samples of sodium thiosulphate, 2 of which contained mechanical impurities and were rejected.

SPARTEINÆ SULPHAS.

Gordin, H. M., reviews the chemistry of sparteine, and the progress that has been made in our knowledge of its composition during the year 1905.—Pharm. Rev., Milwaukee, 1907, v. 25, pp. 50–55.

Moureu and Valeur (Compt. rend., 145, 1343–1345) report the results of their work on isosparteine, an isomer of sparteine.—Chem. Abstr. Am. Chem. Soc., 1908, v. 2, p. 1010.

Demandre (Gaz. d. hôp. de Toulouse) makes a contribution to the study of the salts of sparteine and of periodide of sparteine. His conclusions are given in Répert. de pharm. Par. 1907, v. 19, pp. 250–252.

Maurel, E., discusses the influence of the paths of administration (gastric, hypodermic, intravenous, etc.) on the minimal lethal dose of sparteine sulphate.—Compt. rend. Soc. de biol., Par. 1907, v. 62, pp. 960–961. (See also under "Methods of Administration.")

McGuire (American Journal of Surgery, Feb., 1907) believes that he has accidentally discovered in sulphate of sparteine a valuable remedy for the prevention and treatment of postoperative suppression of urine.—Therap. Gaz., Detroit, v. 31, pp. 403-404.

Commenting on the announcement made by Dr. Stuart McGuire, that he has accidentally discovered in sparteine sulphate a drug of value to prevent postoperative suppression of urine, an editorial points out that if these observations are correct it gives the drug a more prominent place than it now holds. The pharmacology of this drug leaves us with the impression that there is room for much more good work.—Pacific Pharm., San Francisco, 1907-8, v. 1, p. 89.

SPIGELIA.

Henkel, Alice, describes and figures *Spigelia marilandica* L., commonly called pinkroot, Carolina pinkroot, Carolina pink, Maryland pink, Indian pink, starbloom, wormgrass, wormseed, and American wormroot.—Bull. Bur. Plant Ind., U. S. Dept. Agric., 1907, No. 107, pp. 52-53.

Holm, Theo., discusses and describes, with illustrations, the internal structure of the stem and leaf of *Ruellia ciliosa*, Pursh., *Phlox orata* L., and *Spigelia marilandica* L.—Am. J. Pharm. Phila., 1907, v. 79, pp. 51-56.

Stockberger, W. W., discusses and illustrates the drug known as pinkroot, the trade varieties, the identity of the chief substitutes, the minor adulterants and methods of distinguishing pinkroot from its substitutes.—Bull. Bur. Plant. Ind., U. S. Dept. Agric., 1907, No. 100, pp. 41-44. (See also Pharm. Rev., Milwaukee, 1907, v. 25, pp. 2-21, 34-47, 66-84, 97-107.)

A news note asserts that *Spigelia* is an efficient remedy for round worm, and is not poisonous if given with care. The patient should be kept without food for twelve hours or more before administering the drug in the form of liquid extract. The addition of senna makes the drug more efficient, and the mixture is not disliked by children.—Pharm. J. Lond., 1907, v. 25, p. 26.

SPIRITUS.

Stevens, A. B., presents a list of U. S. P. and N. F. spirits and gives the calculated percentage of alcohol by volume.—Pharm. Era, N. Y., 1907, v. 37, p. 202.

SPIRITUS ÆTHERIS COMPOSITUS.

Pettit, H. M., thinks that unless it can be shown that the heavy oil of wine is actually possessed of sedative properties the compound spirit of ether might well be deleted from the Pharmacopœia.—Proc. Missouri Pharm. Ass., 1907, p. 136.

SPIRITUS ÆTHERIS NITROSI.

Hemm, Francis, describes the process for preparing the U. S. P. spirit of nitrous ether and calls attention to some of the precautions that must be exercised in this connection.—Proc. Missouri Pharm. Ass., 1907, pp. 107–109.

Dohme and Englehardt point out that the Ph. Ndl. applies Dietze's method for the estimation of ethyl nitrite with very good results, besides being short in manipulation it does away with the use of the nitrometer.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 378.

Coblentz, Virgil, outlines a test for the detection of denatured alcohol containing acetone in spirit of nitrous ether.—Merek's Report, N. Y., 1907, v. 16, p. 68.

Furbush, W. St. L., outlines a method, and describes and figures an apparatus for distilling nitrous ether. Also discusses a test and assay and figures and describes an ingenious nitrometer.—Am. Drug-gist, N. Y., 1907, v. 50, pp. 163–165.

Whitney, D. V., presents an inquiry into what is being dispensed as sweet spirit of nitre; 17 samples analyzed varied from 1.570 to 3.910 per cent of ethyl nitrite.—Proc. Missouri Pharm. Ass., 1907, pp. 148–49.

Blome, Walter H., (com. on adulterations) reports the examination of 7 samples of spirit of nitrous ether which varied from 1.30 to 5.08 per cent of nitrous ether and points out that the reason for the deficiency is the fact that many pharmacists keep this preparation in large, partially filled clear glass bottles exposed to strong light.—Proc. Michigan Pharm. Ass., 1907, p. 69.

The New York State Board of Health, Eastern Branch, reports 151 samples examined, 1 deficient.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 327.

Caspari, Chas. E., points out that there has always been a demand by pharmacists for an article which should be cheaper, and consequently manufacturers have supplied them with a spirit of ethyl nitrite labeled "3F" or "4F," and containing from 1 per cent to 3 per cent of ethyl nitrite. He asserts that large quantities of this weaker spirit of nitrous ether are still being sold.—Proc. Missouri Pharm. Ass., 1907, p. 142.

Sayre, L. E., reports on a sample of sweet spirit of nitre with a specific gravity of 0.952, which was acid in reaction, liberated a little CO_2 from NaHCO_3 ; did not boil at 65°C ., and yielded 0.04 per cent ethyl nitrite, in place of 4 per cent required by the U. S. P. VIII.—Bull. Kansas Bd. Health, 1907, p. 110.

Gilmour, J. P., thinks that a solution of ethyl nitrite would be more satisfactory than the spirit. The latter, however, with reason-

able precautions, can be maintained of official strength.—Pharm. J. Lond., 1907, v. 25, p. 110.

The annual report of the local government board of England and Wales points out that of 232 samples examined 62 were found to be adulterated or not up to the standard.—Chem. & Drug., Lond., 1907, v. 71, p. 828.

SPIRITUS FRUMENTI.

F. I. D. 65, issued April 12, 1907, presents the opinion of Attorney-General Charles J. Bonaparte bearing on the labeling of whisky, blends, compounds, and imitations thereof.

Ladd, E. F., discusses the definition for whisky that has been adopted in North Dakota, and reports on a number of examinations that have been made, giving the names of the legal as well as the illegal samples examined.—Rep. North Dakota Exper. Sta., 1907, Part II, pp. 32-34, 43-58.

An editorial calls attention to some of the evidence that has been collected with reference to the whisky question and expresses some doubt as to the reliance that may be put in the claim that alcohol in a straight whisky is a good thing to drink while alcohol plain is not.—Drug Topics, New York, 1907, v. 22, pp. 33-35.

Crampton and Tolman (Lab. Bur. Int. Rev. J. Am. Chem. Soc., 30, 98) made a study of the changes taking place in whisky stored in wood, and give the conclusions drawn therefrom.—Chem. Abstr. Am. Chem. Soc., 1908, v. 2, p. 685.

Schidrowitz, Philip, discusses the estimation of higher alcohols ("fusel oil") in distilled liquors. His conclusions favor the Allen-Marquardt process; he thinks the Roese process most unreliable and sometimes quite impossible.—J. Am. Chem. Soc., 1907, v. 29, pp. 561-566.

Baird, J. W., (com. on adulterations) reports on 8 samples, 2 genuine, 6 adulterated.—Proc. Massachusetts Pharm. Ass., 1907, p. 40.

Lythgoe, Hermann C., reports 6 samples of whisky out of 7 examined as being adulterated.—Rep. Massachusetts Bd. Health, 1907-08, p. 385.

Ladd, E. F., asserts that more than 70 per cent of all the whiskies sold in the State of North Dakota are illegal under the present food law.—Proc. North Dakota Pharm. Ass., 1907, p. 58.

Charteris and Cathcart discuss the physiological action of whisky on the circulation, and state that very little is known of the various wines and spirits as compared with that of pure alcohol.—Brit. M. J., 1907, v. 1, p. 1174.

SPIRITUS GLYCERYLIS NITRATIS.

Dohme and Englehardt suggest that an assay method should be given for spiritus glycerylis nitratis based on the saponification of the glyceryl nitrate by alcoholic caustic potash.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 381.

Persson, Clöes, discusses the valuation of nitroglycerin and outlines methods for qualitative as well as quantitative determination.—*Svensk farm. Tidskr.*, 1907, v. 11, pp. 56–57.

Bernegau, Henry, found spirit of nitroglycerin to vary considerably and points out the need for determining the strength of this preparation. He also points out that in the manufacture of tablets the loss of nitroglycerin appears to be in the granulation process and that the tablets themselves are fairly constant.—*Am. J. Pharm., Phila.*, 1907, v. 79, p. 555.

Dohme, A. R. L., reports that observations made in his laboratory appear to indicate that tablets of nitroglycerin do not deteriorate perceptibly in course of time. Samples that were examined periodically during the past five years have not shown any marked deterioration.—*D.-A. Apoth.-Ztg.*, N. Y., 1907, v. 28, p. 133.

Vanderkleed, Charles E. (com. on adulterations), points out that nitroglycerin solution generally assays 8 or 9 per cent of glyceryl trinitrate, and suggests the gasometric method for testing.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 86.

Herringham, W. P., states that the nitrites, including nitroglycerin, do some good in the treatment of arterial sclerosis, but their effect is usually transient.—*Brit. M. J.*, 1907, v. 1, p. 63.

Lisin, F., discusses the uses of trinitrin as a vaso dilator and reviews some of the literature.—*Arch. internat. de Pharmacod. et de Thérap.*, 1907, v. 17, p. 484.

Snader, Edward E., (Medical Counselor) asserts that in an aged person where it is necessary to use an additional stimulant to the heart he has had good results from nitroglycerin given in 1/100 gr. doses during a critical period.—*Hahnemann. Month.*, Phila., 1907, v. 42, p. 153.

Kinyon, C. B., points out that the use of glonoin in diseases of women is in some respects similar to belladonna except that it has a pale face, the cerebral congestion is very intense, but the pelvic pain generally continues for two or three hours after the flushing and headache are relieved. It is often a very valuable remedy during the climactic.—*Tr. Am. Inst. Homœop.*, 1907, 63d session, p. 385.

Additional references on the use of spirit of glyceryl trinitrate will be found in the *Index Medicus* and the *J. Am. M. Ass.*

SPIRITUS VINI GALlici.

Kayser and Demolon report a study of the effect of the method of fermentation of the wine on the composition of the brandy.—Compt. rend. Acad. d. sc., Par., 1907, v. 145, pp. 205-214.

Ladd, E. F., points out that there is little or no brandy on the market that will meet the official requirements as to age.—Proc. North Dakota Pharm. Ass., 1907, p. 57.

Lythgoe, Hermann C., reports one sample of brandy as being adulterated.—Rep. Massachusetts Bd. Health, 1907, 1908, p. 385.

Scoville, W. L., found all brandy colored with caramel. This is true of the imported as well as domestic brands.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 324.

STILLINGIA.

Henkel, Alice, describes and figures *Stillingia sylvatica* L., commonly called stillingia, queen's-delight, queen's-root, silverleaf, and nettle-potato.—Bul. Bur. Plant Ind., U. S. Dept. Agric., 1907, No. 107, pp. 47-48.

Watkins commends stillingia liniment, both as an external application and internally in croup.—Eclectic M. J. Cincin., 1907, v. 67, p. 114.

STRAMONIUM.

Remington, Joseph P., reports that the U. S. P. standard for Stramonium is *now* 0.25 per cent of mydriatic alkaloids. Fluid extract of Stramonium *now* 0.25 gramme alkaloids in 100 cc. Extract of Stramonium *now* 1 per cent alkaloids. Tincture of Stramonium *now* 0.025 gramme alkaloids in 100 cc.—Am. J. Pharm. Phila., 1907, v. 79, p. 135.

Peltriset, C. N., discusses the leaves of belladonna, stramonium and hyoscyamus, characters and microscopic diagnosis.—Bull. d. sc. pharmacol. Par., 1907, v. 14, pp. 569-575.

Caesar and Loretz (Geschäfts Ber., 1907, p. 94) record the requirements of the Ph. Austr. as permitting 20 per cent of ash. The U. S. P. requirement for 0.35 per cent of mydriatic alkaloids has been reduced to 0.25 per cent.

Hankey, W. T., has assayed lots of stramonium which fell as low as 0.14 per cent; the average of the better lots running close to 0.25 per cent of mydriatic alkaloids.—Am. Druggist, N. Y., 1907, v. 50, p. 9.

Sayre, L. E., reports on 6 assays of stramonium, which yielded from 0.26 to 0.44 per cent of alkaloids. Average, 0.35 per cent.—Bull. Kansas Bd. Health, 1907, p. 44.

Caspari, Chas. E., (com. on adulterations) examined 3 samples, all weak.—Proc. Missouri Pharm. Ass., 1907, p. 147.

Vanderkleed, Charles E., reports 19 assays of stramonium leaf, ranging from 0.157 to 0.620 per cent. Points out that reduction of standard to 0.25 was probably a wise one.—Proc. Pennsylvania Pharm. Ass., 1907, p. 90.

Kline and Graham report a sample of stramonium which assayed only 0.056 per cent of mydriatic alkaloids. They conclude that these leaves were not derived from *Datura stramonium*.—*Ibid.*, p. 86.

Bloyer is of the opinion that the use of opiates has blinded the profession to a degree as to the value of other and safer narcotics; in this connection he discusses the action and uses of stramonium.—Eclectic M. J. Cincin., 1907, v. 67, pp. 155–157.

STRONTII BROMIDUM.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 45) estimated one sample by titration which showed a purity of 99.85 per cent. The solution was neutral, and barium and iodides practically absent.

Robinson, William J., presents a clinical study of the bromine compounds with special reference to strontium bromide, which he believes the best of all the inorganic bromine compounds.—Tr. Am. M. Ass. Sec. Pharm. and Therap., 1907, pp. 80–92.

Bennion, J. M., used strontium bromide for the treatment of epilepsy in the insane, and believes that it has certain advantages over other bromides; rashes occur less frequently, there is less depression, and it controls the fits better.—Lancet, Lond., 1907, v. 172, pp. 19–20.

An editorial discusses the use of strontium bromide in the treatment of epilepsy, and points out that it has been frequently observed that strontium bromide acted better in controlling the number and the severity of the attacks than the mixed bromides of potassium and sodium.—Med. Rec., N. Y., 1907, v. 71, p. 608.

STRONTII IODIDUM.

Mitchell, Edward, asserts that at present no strontium iodide, U. S. P., is offered by local chemical houses. His firm is supplying U. S. P. purity, but not in crystal form, which the Pharmacopœia requires.—Proc. Arkansas Pharm. Ass., 1907, p. 91.

STROPHANTHINUM.

Thoms, H., reviews some of the more recent contributions on the action and uses of strophanthin and the variation in activity that is evidenced by the several strophanthins now available. He suggests the use of the following:

g.-Strophanthin=Strophanthin from *Strophanthus gratus*.

h.-Strophanthin=Strophanthin from *Strophanthus hispidus*.

k.-Strophanthin=Strophanthin from *Strophanthus kombé*.

e.-Strophanthin=Strophanthin from *Strophanthus emini*.

—Pharm. Ztg., Berl., 1907, v. 52, pp. 699–700.

Gehe & Co. (Handels-Bericht, 1907, p. 82) point out that *g*-Strophanthin, the active principle derived from *Strophanthus gratus*, is destined to replace the more or less variable tincture of strophanthus. The action appears to be uniformly reliable, and the appearance of the cumulative action is more quickly noted than with digitalin.

An unsigned article reviews the origin and production of ouabain, an amorphous glucoside from the *Acocanthera schimperi*, which is identical with the so-called crystalline strophanthin.—Am. Druggist, N. Y., 1907, v. 50, p. 102.

Fraenkel, A., discusses the intravenous injection of strophanthin in connection with the treatment of acute insufficiency of the heart.—Therap. d. Gegenw., Berl., 1907, v. 48, pp. 56–58.

v. Krehl, L., discusses the intravenous injection of strophanthin in various heart affections, reports a number of cases, and describes his technique.—Arch. f. exper. Path. u. Pharmakol., 1907, v. 57, pp. 79–122.

Fraenkel & Schwartz (Arch. f. exper. Pathol. u. Pharmakol., v. 57, pp. 79–122) report their observations with the intravenous injection of strophanthin.—Jahresb. ii. Tier. Chem. Wiesb., 1907, v. 37, p. 786.

Edmunds, Charles Wallis, presents a study on the action of strophanthin on the velocity of the blood current in dogs.—Am. J. Physiol., Boston, 1907, v. 18, pp. 140–144.

For additional references on the use of strophanthin see Index Medicus and J. Am. M. Ass.

STROPHANTHUS.

Meyer, Arthur, reviews some of the recent literature relating to strophanthus, the variation in the activity of *Strophanthus kombé* and the proposed substitution of the *gratus* or *hispidus* variety. He concludes that the introduction of either of these varieties would be of no advantage at the present time and that it would be preferable to improve on the character of the *S. kombé*.—Arch. d. Pharm., 1907, v. 245, pp. 351–359.

Mank-Mylan, Paul, criticises some of the statements made by Meyer which he considers reflect discreditably on the present day status of the German apothecary.—*Ibid.*, v. 245, pp. 554–557.

Meyer, Arthur, replies at some length.—*Ibid.*, v. 245, pp. 558–560.

Rusby, H. H., believes that most of the strophanthus seed imported is spurious.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 333.

Friedländer, Richard, reviews the history of strophanthus, its introduction by Fraser and its use as a cardiac tonic.—Therap. Monatsh., Berl., 1907, v. 21, pp. 175–176.

Caesar and Loretz (Geschäfts Ber., 1907, pp. 55–57) discuss the economic conditions prevailing in connection with strophanthus and review the several tests that have been proposed. They (pp. 107–

110), outline their qualitative and quantitative tests for the estimation of strophanthin content.

Philipp Röder Wien, points out that the sulphuric acid test for the identity of strophanthus should not be omitted and that at least several seeds in each lot should be so tested to guard against possible contamination with other seeds.—Pharm. Post., Wien, 1907, v. 40, p. 376.

Dohme, A. R. L., believes that all samples of strophanthus should respond to the sulphuric acid test. *Kombé* seed he believes to be preferable to the *hispidus* variety.—D.-A. Apoth.-Ztg., N. Y., 1907, v. 28, p. 133.

Hankey, William T., reports rejecting a shipment of strophanthus because the cheaper and unofficial variety, *Strophanthus hispidus*, was sent out instead of the official *Strophanthus kombé*.—Proc. Pennsylvania Pharm. Ass., 1907, p. 71.

Philipp Röder (Jahresbericht, Wien, 1907, p. 115) reports on 6 samples of strophanthus which varied from 3.75 to 4.40 per cent of ash and yielded from 12.33 to 20.05 per cent of alcohol extract.

Niece, Frederic E., outlines and describes a color reaction which he suggests for testing the identity of tincture of strophanthus.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 484.

The committee of reference in pharmacy points out that the proposed international standard for tincture of strophanthus is nearly four times as strong as that now official in the Ph. Brit., and that the great difference in the dosage might produce very untoward results.—Chem. & Drug., Lond., 1907, v. 70, p. 587.

Greenish, Henry G., points out that the International Agreement requires a tincture made by percolating with 70 per cent alcohol seeds not previously defatted; strength 1 in 10, weight in weight. All the pharmacopœias agree, but the United States Pharmacopœia requires weight in volume and directs a somewhat weaker menstruum.—Pharm. J., Lond., 1907, v. 24, p. 832.

Cæsar and Loretz (Geschäfts Ber., 1907, p. 73) point out that the tincture of strophanthus appears to be a permanent preparation. A sample three years old tested physiologically, gave practically the same results as when first made.

Philipp Röder Wien, reports that a number of samples of tincture of strophanthus examined exceeded the 1 per cent requirement for extract of the Ph. Austr. VIII, and points out that the pharmacopœia should caution against diluting a tincture that happens to be rich in extractive.—Pharm. Post., Wien, 1907, v. 40, p. 376.

Hatcher, R. A., calls attention to the fact that strophanthus has not rivaled digitalis, despite the theoretical advantages, and quotes Heinz, who states that strophanthus fell into disfavor in Germany soon after its introduction, owing to the variability. Hatcher cites

his experiments to show that the tincture of strophanthus, as sold in the shops of New York, is quite uniform in potency.—*J. Am. M. Ass.*, 1907, v. 48, pp. 1177–1179.

Additional references on the use of strophanthus will be found in the *Index Medicus* and the *J. Am. M. Ass.*

PULVIS ACACLÆ COMPOSITUS N. F.

Beringer, George M., objects to the use of *Pulvis Gummosus G. P.* as a synonym for *Pulvis Acaciae Compositus N. F.*, as the ingredients of the two preparations are present in different proportions.—*Proc. New Jersey Pharm. Ass.*, 1907, p. 75.

PULVIS CRETÆ AROMATICUS N. F.

Caldwell, Paul, says that 1 ounce of aromatic powder of chalk, with opium, contains 12 grains of powdered opium.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 205.

Beringer, George M., points out that aromatic powder of chalk is not similar to the “*pulvis cretæ aromaticus*” of the *Ph. Brit.*, despite the similarity of the title and the misleading statement in the footnote.—*Am. J. Pharm., Phila.*, 1907, v. 79, p. 364.

PULVIS EFFERVESCENS COMPOSITUS.

Patch, E. L., examined 200 barrels which contained traces of chloride and traces of sulphate; several, traces of iron; 10 not thoroughly mixed. Samples from different portions of the barrels assayed differently; otherwise were U. S. P. Sample of seidlitz powder mixture contained 45.88 per cent of sodium bicarbonate instead of 25.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 330.

Scoville, W. L., found the separate administration of the acid and alkaline seidlitz powders successful in many cases of headache where the ordinary headache powder proved nonefficacious. He states that a seidlitz powder yields about a pint and a half of carbon dioxide at the body temperature, and it is his opinion that this gas is an effective corrective of stomach disorders.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 227.

PYROGALLOL.

MacGowan, Granville, states that pyrogallie acid may be used in the form of a paste or salve in the treatment of lupus when a salicylic-creosote plaster is not permissible. It is advised that 10 per cent of calomel be added to a 50 per cent paste of pyrogallie acid for the purpose.—*J. Am. M. Ass.*, 1907, v. 49, p. 741.

PYROXYLINUM.

De Mosenthal, H., presents some observations on cotton and nitrated cotton.—Chem. & Drug., Lond., 1907, v. 70, p. 546.

Lunge, G., (Z. angew. Chem. 29, 2051–2058) reviews the work accomplished since 1899 by him and his associates and pupils and by Bruley, Guttman, and Bersch.—Chem. Abstr. Am. Chem. Soc., 1907, v. 1, p. 908.

Blome, Walter H., (com. on adulterations) reports pyroxylin not entirely soluble.—Proc. Michigan Pharm. Ass., 1907, p. 70.

STRYCHNINA.

Gordin, H. M., reviews the several communications bearing on the chemistry of strychnine published in the year 1905.—Pharm. Rev., Milwaukee, 1907, v. 25, pp. 55–57.

Pozzi-Escot, Emm., describes a crystalline double iodide of bismuth and strychnine which is claimed to be a very good means of recognizing the latter microchemically.—Ann. de chim. analyt., Par., 1907, v. 12, p. 357.

Warren and Weiss discuss the use of picrolonic acid as a precipitant for strychnine, and describe and figure strychnine picrolonate.—J. Biol. Chem., N. Y., 1907, v. 3, p. 334.

Welborn, G., points out the need for a simplified and abbreviated method of analysis for the detection of strychnine and outlines a method which he believes will materially shorten the completion of the analysis.—Pharm. J., Lond., 1907, v. 25, p. 639.

An editorial calls attention to the death caused by a mixture of liquor strychninae and liquor arsenicalis of the Ph. Brit., and points out the desirability of using an acid solution of arsenic with potent alkaloids.—*Ibid.*, v. 25, p. 568.

Elborne and Warren discuss the toxicology of strychnine and present a number of illustrations showing the characteristic contractions of the claws of birds poisoned by strychnine.—*Ibid.*, v. 24, p. 776.

Jacobj, C., discusses the cause for the paralyzing action of strychnine and reports a number of observations from which he concludes that Schmiedeberg's conception of a specific, central paralyzing action of strychnine is probably correct.—Arch. f. exper. Path. u. Pharmacol., 1907, v. 57, pp. 399–414.

Sherrington, C. S., discusses the action of strychnine on the reflex inhibition of skeletal muscle, and records a number of experiments.—J. Physiol., Lond., 1907, 1908, v. 36, pp. 185–204.

French, J. M., discusses the action and uses of strychnine as compared with hydrastine.—Merck's Arch., N. Y., 1907, v. 9, p. 105–107.

Additional references on the use of strychnine will be found in the Index Medicus and the J. Am. M. Ass.

STRYCHNINÆ SULPHAS.

Vecray, F. L., (Gaz. Med. Belg.) points out that the Ph. Belg. III directs that strychnine nitrate be dispensed in place of the sulphate, because the former is stable while the latter loses five molecules of water of crystallization on exposure to the air.—Pharm. Era, N. Y., 1907, v. 37, p. 107.

STYRAX.

Gausby, R. A., reports that all samples of styrax examined were of satisfactory quality, with the exception that each contained a larger proportion of water than allowable.—Proc. Pennsylvania Pharm. Ass., 1907, p. 76.

Graham, Willard, examined two samples of styrax which contained, respectively, 70 per cent and 69 per cent of alcohol soluble matter.—*Ibid.*, p. 238.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 44) state that this substance is still subjected to much adulteration and give the results of their examination of five samples, which ranged from 24 to 77 per cent in proportion of petroleum ether extract; from 95 to 100 acid value; from 5.5 to 26 per cent water content, and from 0.1 to 1.5 per cent in ash. Three were 3.9, 5.7, and 4.5 per cent insoluble in 90 per cent alcohol; two contained fatty deposit, and three contained 20, 15, and 7 per cent of cinnamic acid. The cinnamic acid was estimated by saponification and crystallization from water, but such good results have been obtained by the bromine absorption method that they intend experimenting further in this direction.

SULPHONETHYLMETHANUM.

Cohn, Walter, calls attention to the danger of administering hypnotics in the form of tablets and advises the administration of this class of medicaments in the form of solution or mixture.—Apoth. Ztg. Berl., 1907, v. 22, p. 147.

Gabutti, E., points out that the presence of sulphonal in trional or tetronal may be detected by taking advantage of its comparative insolubility in ether. 10 cc. of ether will completely dissolve 0.5 gm. of trional, 1 gm. of tetronal, and only 0.07 gm. of sulphonal. Sulphonal may subsequently be identified by suitable reagents and the determination of its melting point, 125.5° C.—J. de Pharm. et de chim., Par., 1907, v. 25, pp. 483–486.

SULPHONMETHANUM.

Smith, H. Carlton, questions why the name antipyrin is retained and "sulphonal" rejected. Sulphonal is, or was five years ago, official in the Ph. Brit., and is much easier than the semiscientific

names used by our revisers of 1900. The exact chemical names for complex hydrocarbon derivatives are not practicable. Sulphonal is a diethyl-sulphon-dimethyl-methane. This name gives us a definite idea of its constitution, which the abbreviated name in the Pharmacopœia gives but imperfectly.—Dental Cosmos, Phila., 1907, v. 49, p. 847.

Wood, Horatio C., jr., states that owing to our peculiar patent laws sulphonal, costing 77 cents per pound in England, costs \$21.60 per pound here. Wood cites other instances where such discrepancies prevail.—J. Am. M. Ass., 1907, v. 49, p. 349.

Gabutti, Emilio, outlines a method of detecting sulphonal in trional or tetronal by taking advantage of the greater solubility of the latter two in ether.—Boll. chim. farm., Milano, 1907, v. 46, pp. 533-535.

Dücker discusses the soporific action of alkyl radicles and reviews the pharmacodynamic properties of a number of synthetic hypnotics, including sulphonal and trional.—Pharm. Ztg. Berl., 1907, v. 52, p. 970.

SULPHUR SUBLIMATUM.

An unsigned article presents an interesting account of the sulphur industry of the world and the influence that has been exerted by the recent development of the Louisiana sulphur mines on the Sicilian sulphur industry.—Oil, Paint and Drug Reporter, N. Y., 1907, v. 72, Oct. 7, p. 16.

A news note presents some figures in connection with sulphur statistics of the world, and points out that these figures indicate an increase of 50 per cent in the quantity and of 33 per cent in the value of the production of sulphur in the United States for 1906; the increase being from 181,677 long tons in 1905 to 293,153 tons in 1906.—*Ibid.*, v. 72, p. 50.

An unsigned article discusses the sulphur production in Louisiana, and quotes Frasch, who asserts that prior to the operation of the Louisiana mines only one-half of 1 per cent of the sulphur was produced in this country. Now, we are exporting to Europe more than the Sicilians have been shipping here, and we are furnishing all the sulphur used in the United States—the largest sulphur consuming country in the world.—Paint, Oil & Drug Rev., Chicago, 1907, v. 44, December 11, p. 16. (See also *Ibid.*, v. 44, August, 14th, p. 24.)

An editorial discusses the Cove Creek Sulphur Beds, Utah, and points out that the ore varies in richness from a trace to practically pure sulphur. Material running as low as 15 per cent sulphur is considered paying ore. At the smelter, the ore is placed in iron retorts and the sulphur is melted out by steam. The resulting product

as it comes from the retorts has been found to contain 99.71 per cent of sulphur, 0.23 per cent nonvolatile residue, and 0.06 per cent of moisture.—*Ibid.*, v. 43, Mch. 6, p. 25.

An editorial (*L'industria chimica*, v. 7, pp. 78–79) makes a brief statement concerning the present status of the sulphur industry in Sicily.—*Chem. Abstr. Am. Chem. Soc.*, 1907, v. 1, p. 1460.

A review of the sulphur industry of Japan includes a table giving the amount and the value of sulphur exported during the years 1902–1906.—*Chem. Ind.*, Berl., 1907, v. 30, p. 403.

Berger, M., outlines a method for the rapid transformation of sulphur into sulphuric acid in the determination of metallic sulphur.—*Bull. de la Soc. de chim. de France. Par.*, 1907, v. 1, pp. 194–195.

Kastle and McHargue report on the combustion of sulphur in air and oxygen.—*Am. Chem. J.*, 1907, v. 38, pp. 465–475.

McCrea and Wilson (*Chem. News*, July 19, 1907, 25) have made experiments which showed that at temperatures below 255° C. sulphur refused to ignite, but that at temperatures above 255° C. ignition easily took place.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 253.

Hill J. Rutherford, discusses the igniting point of sulphur and reports some additional experiments which indicate that the igniting point of sulphur is about 255° C.—*Pharm. J. Lond.*, 1907, v. 24, p. 357.

Ruff and Graf discuss the behavior of sulphur with water and the vapor pressure of sulphur from 78–210° C.—*Ber. d. deutsch. chem. Gesellsch.*, 1907, v. 40, III, pp. 4199–4205.

Erdmann, Hugo, presents a contribution to our knowledge of the chemistry of sulphur in which he discusses the ring-like combinations assumed by this element under certain conditions, and the existence of an active form of sulphur as thiozone, S_3 .—*Ann. d. Chem. Leipz.*, 1907, v. 362, pp. 133–137.

Klose, G., reports that adeps lanæ dissolves 0.37 per cent of sulphur.—*Arch. internat. de Pharmacod. et de Thérap.*, 1907, v. 17, p. 461.

Gilmour, J. P., found 76 samples to be of Ph. Brit. standard. If Squire's statement be correct, that commercial sublimed sulphur is always more or less acid, and that only "washed sulphur" fulfills the Ph. Brit. requirement as to freedom from acidity, he thinks the majority of the samples must have been of the latter variety.—*Year Book Pharm.*, Lond., 1907, pp. 446–450.

Stich, Conrad, discusses the keeping qualities of sulphur ointment, and describes and figures crystalline forms of sulphur observed in ointments and similar preparations.—*Pharm. Ztg.*, Berl., 1907, v. 52, pp. 789–790.

Riecke, E., suggests the following method as producing the most stable and efficient ointments: Sulphur is precipitated from a thoroughly chilled solution of calcium polysulphide and triturated after washing, while still moist, with the ointment base (anhydrous wool fat, according to Stich). Obtained in this way the ointment, which the author proposes to designate as *Pasta Sulfuris Pulviformis*, has proven therapeutically very efficient and to possess marked stability.—*Ibid.*, v. 52, p. 1059.

Ellis, W. H., has found that if sulphur is placed upon a small smooth board and rubbed with a spatula, it can be incorporated with the lard easily, and a very smooth ointment free from coarse particles is the result. A piece of common oak board, 10 by 12 inches in size and sand papered on one side, is just the thing.—*Bull. Pharm.*, Detroit, 1907, v. 21, p. 164.

Frick, Daisy A., (*Bull. Pharm.*, Detroit, 1907, v. 21, p. 338) makes the following suggestion, which facilitates the incorporation of the sulphur in ointments: First, triturate the sulphur in a dry mortar, then carefully triturate with just sufficient glycerin to form a smooth paste, which is easily accomplished. The base is then added in small quantities at a time, and a fine, smooth ointment results.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 138.

Blackwood, A. L., points out that sulphur has an extensive clinical record in the treatment of what the older observers termed "scrofula."—*Tr. Am. Inst. Homœop.*, 1907, 63d session, p. 486.

Kinyon, C. B., points out that sulphur is the great remedy for persons tainted with psora. In these cases it seems to set the system in running order till other remedies will work. Give a dose early in the morning.—*Ibid.*, p. 393.

Fornias, Eduardo, outlines a scheme for the study of sulphur, gives a résumé of the role of sulphur in the economy and of the changes this organogenic element suffers in normal and abnormal conditions. Also discusses the general action of sulphur as a drug.—*Hahnemann. Month.*, Phila., 1907, v. 42, pp. 657-669; 837-849.

SULPHUR PRÆCIPITATUM.

Brownlee, R. H., has studied precipitated sulphur with the purpose of investigating the relation between the proportion of amorphous sulphur found in a given sample of precipitated sulphur and the conditions under which the precipitation and hardening of the sulphur took place.—*J. Am. Chem. Soc.*, 1907, v. 29, pp. 1032-1052.

Gausby, R. A., reports that several samples of precipitated sulphur examined contained large amounts of calcium sulphate, but that there is no difficulty in procuring the U. S. P. article.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 79.

Brown, Geo. S., reports that of 16 samples of precipitated sulphur examined, only 1 was found to be pure. Although precipitated was asked for, sublimed sulphur was dispensed in three cases. Eight samples each contained 50 per cent of calcium sulphate.—*Proc. Louisiana Pharm. Ass.*, 1907, p. 80.

Blome, Walter H., (com. on adulterations) reports on 3 samples of precipitated sulphur containing 45.89, 58.0, and 59.90 per cent of calcium sulphate, respectively.—*Proc. Michigan Pharm. Ass.*, 1907, p. 71.

Caspari, Chas. E., (com on adulterations) examined 10 samples: 8 satisfactory, 2 contained 40 per cent to 50 per cent calcium sulphate.—*Proc. Missouri Pharm. Ass.*, 1907, p. 143.

Baird, J. W., (com. on adulterations) reports on 14 samples, 5 genuine, 9 adulterated.—*Proc. Massachusetts Pharm. Ass.*, 1907, p. 40.

SUMBUL.

An unsigned article quotes Stevens, Caldwell, and three manufacturers as giving the percentage of alcohol in the official fluid extract of sumbul as 71.0, 72, 80, 55, and 80 per cent, respectively.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 319.

SUPPOSITORIA.

An unsigned article discusses the making of suppositories of various kinds, the care of the mold, the preparation of extempore molds, and the basis or vehicle to be used.—*Pharm. J. Lond.*, 1907, v. 25, pp. 311-312; 336-337.

Keller, Charles, (*Bull. Pharm.* Aug., 1907, 378) finds that in making cacao butter suppositories by the cold process, the addition of lanolin results in a better working mass than can be obtained by the addition of castor oil or glycerin.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 122.

Shroeder, G. H., finds that in making suppositories which contain drug extracts, he can get the best results by first rubbing the extracts down with glycerin and alcohol, afterwards melting the cacao butter by placing the dish in hot water. By this method the cacao butter does not get hot enough to burn the extracts.—*Bull. Pharm.*, Detroit, 1907, v. 21, p. 209.

Buskey, C. K., observes that in making suppositories containing a granular powder much difficulty is experienced in rolling and shaping the mass. The suppositories tend to crumble, especially when they become too cold. This difficulty can be overcome by adding two grains of petrolatum to each suppository.—*Ibid.*, v. 21, p. 338.

Lane, T. T., finds that the addition of a little petrolatum to the grated cacao butter facilitates the formation of a plastic mass,

which can be easily worked and shaped by hand, and is preferable, on a hot day, to mixing the melted fat with the ingredients in the customary manner. For dusting the suppositories when rolling them out he uses wheat flour, which gives them a much neater appearance than dry lycopodium.—*Ibid.*, v. 21, p. 338.

SUPPOSITORIA GLYCERINI.

Blair, Henry C., outlines his method for making glycerin suppositories and points out that the advantages over the official preparation are a lower melting point, greater solubility, firmer consistency, and, as there is much less water than in the official preparation, they are more hygroscopic.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 156.

SYRUPUS.

Eberle, A. R., suggests that syrup be made from crushed sugar to avoid the presence of ultramarine, which he believes to be the cause of the slightly disagreeable odor frequently met with in syrups made with granulated sugar.—*Proc. Wisconsin Pharm. Ass.*, 1907, p. 67.

Mittelbach, Wm., believes that the second method of making medicinal syrups without the aid of heat is the better one, and should in the next revision be the primary process.—*Proc. Missouri Pharm. Ass.*, 1907, p. 131.

Nixon, C. F., recommends the use of rock candy in making medicinal syrups.—*Bull. Am. Pharm. Ass.*, Chicago, 1907, v. 2, p. 148.

Thurston, Azor, outlines the following method for determining the percentage of sugar in syrup: Into a sugar flask place 26.048 grams of the syrup, make up to 100 cc. with water, polarize in a 200 mm. tube at 25° C., and the reading on the sugar scale will give the direct percentage of sugar in the syrup, which should be 64.5 per cent.—*Merck's Rep.*, N. Y., 1907, v. 16, p. 124.

Baird, J. W., (com. on adulterations) reports on 2 samples, 1 genuine, 1 adulterated.—*Proc. Massachusetts Pharm. Ass.*, 1907, p. 40.

SYRUPUS ACIDI HYDRIODICI.

Lane, P. S., examined 8 samples of syrup of hydriodic acid, which varied from 0.44 to 1.18 per cent of hydriodic acid.—*Am. J. Pharm.*, Phila., 1907, v. 79, p. 366.

SYRUPUS ACETÆ COMPOSITUS N. F.

Beringer, George M., says this title should be changed to Syrupus Cimicifugæ Compositus.—*Ibid.*, v. 79, p. 360.

SYRUPUS AURANTII.

Dunning, H. A. B., believes that syrup of orange would be better without the citric acid.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 131.

SYRUPUS CHONDRI COMPOSITUS N. F.

Caldwell, Paul, says that one ounce of compound syrup of Irish moss contains one-eighteenth grain of powdered opium and 3 per cent of alcohol.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 204.

SYRUPUS COFFEEÆ N. F.

Scoville, W. L., states that in the preparation of syrup of coffee, N. F., much depends upon keeping the vessel well covered during the boiling and cooling. There should be only enough vent to partially relieve the pressure. If a high-grade coffee is used, the addition of 12 grams of chicory will improve it, notwithstanding the prejudice against chicory in coffee. For the cheaper coffees, a trace of coumarin will be an improvement. Only a trace should be used, varying somewhat with the grade of the coffee. When properly adjusted, the coumarin reinforces the coffee flavor without itself being noticeable. It should be borne in mind that this preparation is not intended for a beverage, but is used as a flavor in emulsions, etc., and a too delicate flavor is not desirable; it must have enough of the coarser qualities to make it effective as a disguise for unpleasant tastes.—*Ibid.*, v. 51, p. 295.

SYRUPUS FERRI CITRO-IODIDI N. F.

Stevens, A. B., points out that the N. F. formula for syrup of citro-iodide of iron has been changed in each edition and is still unsatisfactory. He proposes to increase the amount of water used to wash the filter, and to remove any free iodine formed by treating with starch.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, p. 153.

SYRUPUS FERRI IODIDI.

The Ph. Helv. IV directs the use of powdered iron in the making of syrup of iodide of iron and 0.05 per cent of citric acid as a preservative.—*Pharm. Ztg.*, Berl., 1907, v. 52, p. 893.

Ranzoli, Giuseppe, discusses the preparation and the analysis of syrup of ferrous iodide and calls attention to the wide variation in the composition of this syrup existing before the adoption of the 5 per cent standard by the Brussels' Conference. *Boll. chim. farm.*, 1907, v. 46, pp. 610-615.

Rupp and Koat describe a method for determining the iodine content of syrup of ferrous iodide by decomposing the iodide by means

of sulphuric acid, liberating the iodine by an excess of potassium permanganate and titrating with sodium thiosulphate solution.—*Suedd. Apoth. Ztg.*, 1907, v. 47, p. 244.

Beringer, George M., points out that the note (formerly) under Solution of ferrous iodide N. F., is not correct as the diluted hypophosphorous acid is far below that required by the U. S. P. formula for syrup of ferrous iodide. *Am. J. Pharm., Phila.*, 1907, v. 79, p. 363.

Beckwith, C. P., points out that syrup of ferrous iodide made from the N. F. solution of ferrous iodide in accordance with the instructions in the note (formerly) appended to the N. F. formula will fall short of the U. S. P. requirements.—*Bull. Pharm.*, 1907, v. 21, p. 78.

Bachman, Gustav, (Com. on Adulterations) reports syrup of ferrous iodide ranging from 4.8 per cent to 3.1 per cent, instead of 5 per cent as required by the U. S. P.—*Proc. Minnesota Pharm. Ass.*, 1907, p. 41.

SYRUPUS FERRI, QUININÆ ET STRYCHNINÆ PHOSPHATUM.

Cohn, Alfred I., asserts that it is rather difficult to see why a special preparation of the phosphate of iron, quinine, and strychnine should have been necessary to add to the list of U. S. P. preparations just for the purpose of making one syrup, which can be very simply made by a modification of his proposed formula for the elixir of the phosphates of iron, quinine, and strychnine.—*Am. Druggist*, N. Y., 1907, v. 51, p. 5.

Raubenheimer, Otto, points out that Cohn's formula does not yield a preparation containing the three salts as phosphates, and adds that Easton's syrup should be recognized as a synonym by the U. S. P. This preparation darkens if kept on hand because the free acid present will caramelize the sugar.—*Ibid.*, p. 70.

Mittelbach, William, can see no necessity for a syrup of iron, quinine, and strychnine compound; the elixir ought to fill the wants of those prescribing such a compound.—*Proc. Missouri Pharm. Ass.*, 1907, p. 132.

SYRUPUS GLYCYRRHIZÆ N. F.

Seoville, W. L., states that a better flavored preparation of syrup of licorice N. F., can be made by percolating ground licorice root with a weak (0.1 per cent) solution of ammonium carbonate, evaporating the 50 cc. and dissolving 850 gms. of sugar in the liquid. This also makes a lighter colored preparation.—*Drug. Circ.*, N. Y., v. 51, p. 295.

SYRUPUS HYDROCHLOROPHOSPHATUM N. F.

Beringer, George M., thinks this title a misnomer not warranted by the contained materials.—*Am. J. Pharm., Phila.*, 1907, v. 79, p. 360.

Nitardy, F. W., presents a new formula for this preparation in which the amount of sugar is reduced from 525 gms. to 425 gms. for 1,000 cc. of the finished syrup. He has found it impossible to prepare this syrup according to the N. F. directions and outlines an improved method of procedure.—*Bull. Am. Pharm. Ass., Chicago*, 1907, v. 2, p. 381.

SYRUPUS HYPOPHOSPHITUM.

Mittlebach, William, believes that the formula for simple syrup of hypophosphites is a splendid one. It now has the requisite amount of sugar to preserve it.—*Proc. Missouri Pharm. Ass.*, 1907, p. 132.

SYRUPUS HYPOPHOSPHITUM COMPOSITUS.

Goode, W. C., discusses several formulas for compound syrup of hypophosphites, and presents type formulas for a colorless syrup, a neutral syrup, and a cloudy syrup.—*Bull. Pharm.*, 1907, v. 21, pp. 102–104. (See also p. 210 for corrected “typical formulas.”)

Goldby and Finnemore discuss the preparation of the compound syrup of hypophosphites of the B. P. C., also discuss a formula by Harold, and present an alternate and more expeditious process for the preparation of the B. P. C. formula.—*Pharm. J. Lond.*, 1907, v. 24, p. 102.

SYRUPUS IPECACUANHÆ ET OPII N. F.

Caldwell, Paul, says that 1 ounce of syrup of Dover's powder contains 4 grains of powdered opium and 2 per cent of alcohol.—*Drug. Circ., N. Y.*, 1907, v. 51, p. 204.

SYRUPUS MORPHINÆ SULPHATIS N. F.

Caldwell, Paul, points out that 1 ounce of syrup of morphine sulphate contains 1 grain of morphine sulphate.—*Ibid.*, v. 51, p. 205.

SYRUPUS PAPAVERIS N. F.

Beringer, George M., points out that the note under the formula for syrup of poppy N. F. is misleading.—*Am. J. Pharm., Phila.*, 1907, v. 79, p. 365.

SYRUPUS PECTORALIS N. F.

Caldwell, Paul, points out that 1 ounce of pectoral syrup contains one-fourth grain of morphine hydrochloride.—*Drug. Circ., N. Y.*, 1907, v. 51, p. 205.

SYRUPUS PHOSPHATUM COMPOSITUS N. F.

Dunning, H. A. B., asserts that the compound syrup of the phosphates becomes turbid on standing, probably due to the presence of citric acid and a soluble calcium salt.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 131.

SYRUPUS QUINIDINÆ N. F.

Seoville, W. L., states that in the preparation of syrup of quinidine N. F., if the mucilage of acacia is at all acid the bitterness will be developed. The amount of saccharin solution directed is also too large, in his judgment. It should be omitted altogether.—Drug. Circ., N. Y., 1907, v. 51, p. 295.

SYRUPUS PINI STROBI COMPOSITUS N. F.

Caldwell, Paul, points out that 1 ounce of compound syrup of white pine contains one-fourth grain of morphine sulphate, 3 minims of chloroform, and 7 per cent of alcohol.—*Ibid.*, v. 51, p. 205.

SYRUPUS PICIS LIQUIDÆ.

An answer to a correspondent points out the changes that have been made in the formula for syrup of tar during the last three revisions of the U. S. P., and suggests that while the now official may be stronger in tar it has the disadvantage of the presence of alcohol.—*Ibid.*, v. 51, p. 263.

See also under the several drug headings.

TARAXACUM.

Henkel, Alice, describes and figures *Taraxacum officinale* Weber, also known as *Taraxacum taraxacum* (L.) Karst., and *Taraxacum dens-leonis* Desf., commonly called dandelion, blowball, cankerwort, doon-head clock, fortune teller, horse gowan, Irish daisy, yellow gowan, and one-o'clock.—Bull. Bur. Plant Ind., U. S. Dept. Agric., 1907, No. 107, pp. 60-61.

An unsigned article points out that the present shortage of taraxacum is due to a rather unique feature of American drug business, and is the direct result of an advertising campaign in connection with a new proprietary medicine.—Chem. & Drugs, Lond., 1907, v. 70, p. 485.

Abstracts from articles by Chiron and by De Cooman call attention to the usefulness of taraxacum in a variety of conditions such as gastralgia, cephalgia, and other painful affections. Painful sensitiveness in all the limbs, especially the touch and to improper position. Feeling of malaise and weakness in the whole body. Chilliness with pressing headache. Irresolution and aversion to work.—Hahnemann. Month., 1907, v. 42, p. 148.

TEREBENUM.

Southall's Report (1907, 33) says that the official requirements for terebene can not be met in practice. Two lots recently prepared from American turpentine oil had the following characters: Sp. Gr. 0.853 and 0.956; distillate below 165° C., 1 per cent in each; distillate between 165 – 180° C., 97 and 92 per cent.—Year Book Pharm., Lond., 1907, p. 159.

TEREBINTHINA CANADENSIS.

Perrot, E., says the original drug is transparent, citron yellow, of the consistence of thick honey or only slightly fluid; but when it becomes dry, as is the commercial form, there are added to it foreign resins, yet we wonder at our vexations in its micrographic use.—Bull. d. sc. pharmacol., Par., 1907, v. 14, p. 351.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 14) report a small consignment giving normal values (acid value 77, saponification value (hot) 86.8) which refused to become brittle after dissipation of volatile matter. It was not entirely soluble in alcohol. Another sample gave practically identical figures and was found to be satisfactory.

TERPINI HYDRAS.

Hommell, P. E., thinks the N. F. elixir of terpin hydrate with or without codeine should find its way into the U. S. P.—Proc. New Jersey Pharm. Ass., 1907, p. 63.

TALCUM.

Blome, Walter H. (Com. on Adulterations) says that talcum varies greatly as to the amount of grit, degree of fineness and whiteness, and number of shiny scales.—Proc. Michigan Pharm. Ass., 1907, p. 71.

THYMOL.

Schimmel & Co. (Semi-Ann. Rep., October, 1907, p. 104) note the following requirements for thymol in the new Ph. Dan.: colorless, transparent crystals; melting point, 51 – 52° ; boiling point 228 – 230° C.; completely volatile at the temperatures of the water bath. Molten thymol floats on water; crystallized thymol sinks in it. Soluble in 1.100 volumes of water, very readily in alcohol, ether, and chloroform, also in 2 volumes caustic soda liquor (containing 10 per cent NaOH). Identity reactions and test for carbolic acid. Schimmel & Co. suggest that the melting point lies between 50.5 and 51.5° C., and that it boils between 233 and 234° if the mercury thread of the thermometer is placed entirely in the steam.

Welker, William H., discusses the effects of certain antiseptics used for the preservation of urine with respect to the influence they exert upon analysis. He calls attention to a disturbance in the acetone test when applied to urine containing thymol, and states that while the presence of thymol does not wholly destroy the value of the iodoform test for acetone in urine, it certainly increases the difficulty.—N. Y. M. J., 1907, v. 86, pp. 552–553.

Cousin and Hérissé (Journ. Pharm. Chim., 1907, 26, 473) assert that when the oxydase of fungi is allowed to act on thymol, the product is not a simple body. From the products of the reaction dithymol has been isolated, so that the process of oxidation, as in the case of morphine and vanillin, is accompanied by condensation. The other products formed are probably quinones; they are insoluble in caustic soda. They have been obtained in a crystalline condition, and may be condensation products of more complex molecular structure than dithymol.—Pharm. J. Lond., 1907, v. 24, p. 745.

Ashford and King discuss Uncinariasis, its development, course, and treatment, and state that thymol was used by them in many cases without a case of poisoning from it. They believe it to be preferable to betanaphthol, which was also found serviceable.—J. Am. M. Ass., 1907, v. 49, pp. 471–476.

THYMOLIS IODIDUM.

Duliere, Walter, discusses the determination of the iodine content of thymol iodide and points out that the preparation, as available, is not always satisfactory.—Ann. de pharm. Louvain, 1907, v. 13, p. 417.

Patch, E. L., examined one lot containing 1.8 per cent of alkaline iodide.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 331.

TRAGACANTHA.

Nelson, Burt E., discusses the nature and origin of tragacanth and describes its powder.—Merck's Report, N. Y., 1907, v. 16, p. 192.

Vamvakas, Jean, says this gum presents no reaction, either in the cold or heat, with Nessler's reagent; if tartaric acid be added before turning in the Nessler reagent, and if it be carried to the boiling point, there is produced a turbid, dirty orange color which deposits.—Ann. de chim. analyt. Par., 1907, v. 12, p. 13.

Gausby, R. A., points out that there is a great variation in the quality of tragacanth. He reports on 7 lots of powdered tragacanth, all of nice white appearance, which when made into a mucilage (1 in 50) and tested empirically for viscosity, making the highest sample as 100, varied as follows: 100, 80, 24, 22, 12, 8, 6.—Proc. Pennsylvania Pharm. Ass., 1907, p. 75.

Vanderkleed, Charles E., (com. on adulterations) asserts that much of the powdered tragacanth on the market is adulterated with either powdered acacia, or starch, or both. He outlines a test.—*Ibid.*, p. 87.

TINCTURÆ.

Greenish, Henry G., believes that the adoption of a uniform standard for the tinctures of potent drugs, as proposed in the protocol of the Brussels Conference, is open to serious objection, as the strength of some, notably strophanthus, is so great as to render accurate dosage a matter of difficulty, whilst in others, as cantharides, the proportion of active constituent is so large as to approach perilously near to the limit of its solubility in the menstruum employed.—*Pharm. J., Lond.*, 1907, v. 24, p. 833.

Bühlrer, C., points out that much of the disagreement in the U. S. P. from the international protocol is due to the nature of the menstruum and the fact that preparations are made to measure in place of weight.—*Schweiz. Wehnschr. f. Chem. u. Pharm. Zürich*, 1907, v. 45, p. 419.

Hannay, T., points out that the Ph. Helv. IV has adopted in their entirety the international standards for all of the potent tinctures, except in the case of tincture of opium which is still being made by maceration and not by percolation.—*Chem. & Drug., Lond.*, 1907, v. 71, p. 617.

Cleland is reported as suggesting that many tinctures may best be made by a process of fractional maceration.—*Pharm. J., Lond.*, 1907, v. 24, p. 61.

An editorial reviews a recent discussion by Herzog on the comparative value of maceration *versus* percolation, and points out that the results proved that percolation has a direct economic advantage over maceration, 100 grams of tincture prepared by the former being equal to 115 grams of the latter.—*Chem. & Drug., Lond.*, 1907, v. 70, p. 34.

Niece, Frederic E., discusses the identification of tinctures by chemical means and outlines identity tests for a number of preparations.—*Proc. Am. Pharm. Ass.*, 1907, v. 55, pp. 479-484.

An abstract reviews an article by Engström, who proposes to add a capillarity test for determining the identity of tinctures and other liquid preparations.—*Am. Druggist, N. Y.*, 1907, v. 50, p. 225.

Alcock, F. H., reports experiments to determine the strength and general physical characters of tinctures. The physical tests include the amount of total solids per cent w/v, the specific gravity and the alcoholic strength. He gives a table containing the total solids and ash of a number of tinctures.—*Pharm. J. Lond.*, 1907, v. 25, pp. 738-739.

Philipp Röder (Jahresbericht, Wien, 1907, p. 11) suggests that for determining the extract content of tinctures and fluid extracts 10 gms. of the preparation be placed in a tared dish of about 5 cm. in diameter and dried for three hours at a temperature of 100° C. The resulting dried extract multiplied by 10 gives the extract content in 100 gms. of the original preparation.

Feil, Joseph, calls attention to an advertisement in a drug journal advising the dilution of fluid extracts as a convenient and satisfactory method of making U. S. P. tinctures, and points out some reasons why this practice should not be followed.—Proc. Ohio Pharm. Ass., 1907, pp. 34-36.

Cotton, S. (D. Apoth. Ztg.), reports observations on the amount of alcohol retained in drug residues left after exhausting the drug by maceration. As would be expected, spongy drugs like bitter orange peel were found to retain a greater amount of alcohol than hard drugs such as nux vomica.—D.-A. Apoth.-Ztg., N. Y., 1907, v. 28, p. 100.

Stevens, A. B., presents a list of U. S. P. and N. F. tinctures, giving the percentage of alcohol by volume.—Pharm. Era, N. Y., 1907, v. 37, p. 202.

Caldwell, Paul, points out that 1 ounce of ethereal tincture of ferric chloride contains 2 drams of ether and 68 per cent of alcohol.

One ounce of Warburg's tincture contains one-fourth grain of powdered opium and 57 per cent of alcohol.

One ounce of pectoral tincture contains 2 grains of powdered opium and 50 per cent of alcohol.—Drug. Circ., N. Y., 1907, v. 51, p. 205.

TRITICUM.

Henkel, Alice, describes and figures *Agropyron repens* (L.) Beauv., *Triticum repens* L., commonly known as dog-grass, quick-grass, quack-grass, quitch-grass, quake-grass, scutch-grass, twitch-grass, witch-grass, wheat-grass, creeping wheat-grass, devil's-grass, durfa-grass, Durfee-grass, Dutch-grass, Fin's grass, and Chandler's grass.—Bul. Bur. Plant Ind., U. S. Dept. Agric., 1907, No. 107, pp. 12-13.

An unsigned article quotes Stevens, Caldwell, and three manufacturers as giving the percentage of alcohol in the official fluid extract of couch grass as 23.7, 24, 25, 25, and 15 per cent, respectively.—Drug. Circ., N. Y., 1907, v. 51, p. 319.

ULMUS.

Evans Sons Lescher and Webb (Analytical Notes, 1907, 1908, p. 41) report American-ground bark which exhibited very much more starch (in the form of minute rounded grains) than formerly. They are assured that no sophistication has taken place, and as the starch

can not be referred to any other source with which they are familiar the contention of the shippers that the starch is natural to bark of southern habitat is probably correct.

Hommell, P. E., thinks Mucilago Ulmi should be dropped, as it is scarcely ever called for.—Proc. New Jersey Pharm. Ass., 1907, p. 62.

UNGUENTA.

Runge, Paul, in an interesting and comprehensive review of "Doctor Unna's Magistral Formulas" calls attention to the fact that Unna invariably directs that the fats used for the preparation of his ointments and pastes shall be benzoinated, not with benzoic acid, however, as is the usual direction in Ph. Germ. IV, but with benzoin, and emphasizes that the superiority of benzoin as a preservative of fats and oils is fully confirmed by his own experience.—Pharm. Ztg., Berl., 1907, v. 52, p. 535.

A correspondent (W.) of the Apotheker Zeitung, referring to Runge's strictures concerning the relative value of benzoin and benzoic acid for the preservation of fats states that his experience coincides with that of Runge. He has, for example, for the last twenty years benzoinated mutton suet by melting 1 kgm. with 10 gm. of benzoin (which he finds sufficient) and the container (a wooden box) to-day smells as sweet as when it was first put to use for this purpose.—Apoth. Ztg., Berl., 1907, v. 22, p. 580.

McMillan, A., presents some formulas and discusses the changes in ointments made with parenol as described by John Humphrey in the Pharmaceutical Journal of December 8.—Pharm. J. Lond., 1907, v. 24, p. 5.

v. Rijn, W., (Pharm. Weekbl., 1907, No. 51) recommends the following simple method of determining the fat in ointments, which lends itself with particular advantage to the examination of ointments and pastes containing boric acid, mercury, zinc oxide, starch, etc.: 1 gm. of the ointment is weighed on paper and shaken with the paper with 50 cc. of petroleum ether. After subsidence the solution is filtered and 10 cc. of the filtrate are evaporated; the residue is dried at 100° to 105° C. and weighed.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 134.

An unsigned article discusses the dispensing of ointments and the preparation of ointments with solid active ingredients, with liquid active ingredients, with active ingredients soluble in the basis, and the general precautions necessary in connection with the making of ointments.—Pharm. J. Lond., 1907, v. 25, pp. 242-243.

Emelin, E. J., gives some useful hints concerning the dispensing of ointments. To fill an occasional collapsible tube with a salve, roll the salve in a piece of waxed paper, place one end of this roll into

the tube opening and squeeze the ointment into the tube until it begins to issue from the small opening; then screw on the caps and seal the tubes in the usual way.—*Apothecary*, Boston, 1907, v. 19, p. 186.

UNGUENTUM.

Hess, Paul L., would prefer yellow wax instead of the white in the formula for ointment on account of its better keeping qualities. As it is, the ointment will become rancid in a comparatively short time, even if kept under the most favorable conditions.—*Proc. Missouri Pharm. Ass.*, 1907, v. 138.

Over the signature of "K. -Lüdenscheld i. W.," the simple ointment of the Ph. Germ. is criticised unfavorably and a mixture of 1 part of anhydrous wool fat and 2 parts of yellow American vaseline prepared on the steam bath recommended as being an ideal substitute. It is emollient, homogeneous, odorless, stable, and capable of taking up 100 per cent of water.—*Pharm. Ztg.*, Berl., 1907, v. 52, p. 179.

UNGUENTUM ACIDI BORICI.

Koehler discusses the production and the uses of antiseptic ointments, particularly of boric acid ointment, and concludes that the latter is permissible as 1—a mixture of 10 per cent of boric acid with petrolatum, yielding an ointment that does not irritate, but is useful only as a protection. 2—a boroglycerin lanolin ointment containing 10 per cent of boric acid which is antiseptic and because of its water content also cooling.—*Schweiz. Wehnschr. f. Chem. u. Pharm.*, Zürich, 1907, v. 45, pp. 30-31.

UNGUENTUM DIACHYLON.

Lascoff, J. Leon, finds that the best way to prepare diachylon ointment is to melt the lead plaster and olive oil and strain through cheese cloth into a mortar. Rub well, and add a few drops of water. This will turn out a nice, soft, white color; otherwise it will be of a brownish color and not soft.—*Apothecary*, Boston, 1907, v. 19, p. 186.

UNGUENTUM HYDRARGYRI.

Greenish, Henry G., points out that the international agreement required 30 per cent of mercury. All the pharmacopœias comply except the United States, which retains a 50 per cent ointment.—*Pharm. J. Lond.*, 1907, v. 24, p. 833.

Bührer, C., points out that the U. S. P. requires a 50 per cent ointment of mercury in place of the 30 per cent ointment of other pharmacopœias. in accordance with the Brussels Conference.—*Schweiz. Wehnschr. f. Chem. u. Pharm.* Zürich, 1907, v. 45, p. 419.

Michelon, M. E., discusses the history of mercurial ointments, and records a number of formulas for the preparation dating back to the early portion of the sixteenth century.—Bull. de la Soc. de pharm. de Bordeaux, 1907, v. 47, 46–50, 84–92, 97–107.

Brasington, G. E., recommends as an expedient for the convenient and quick extinction of mercury globules, to vigorously agitate the required quantity of metal with an *equal volume* of compound tincture of benzoin in a bottle. The minutely divided mercury, which results almost immediately, may then be incorporated with the fat (preferably lanolin slightly warmed) with a minimum of labor.—Bull. Pharm., Detroit, 1907, v. 21, p. 512.

Dunning, H. A. B., expresses the belief that a better U. S. P. mercurial ointment could be made if anhydrous lanolin were used as the extinguishing agent.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 131.

Mitchell, Edward, asserts that when his firm first took up the subject of mercurial ointment some years ago, a leading manufacturer informed them that no half-mercury ointment contained more than one-third mercury, and that one-third mercury was 25 per cent trade usage.—Proc. Arkansas Pharm. Ass., 1907, p. 91.

Baird, J. W., (com. on adulterations) reports on 7 samples: 1 genuine, 6 adulterated.—Proc. Massachusetts Pharm. Ass., 1907, p. 40.

Seoville, W. L., reports samples which tested 47.7 per cent to 49.2 per cent mercury, but the lowest test samples show presence of appreciable quantity of mercury oxide.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 327.

Deming, Ralph, believes that as a therapeutic measure in the treatment of syphilis, the inunction method is the best, but because of its many objectionable features it is of comparatively little value in private practice.—Hahnemann. Month., Phila., 1907, v. 42, p. 429.

UNGUENTUM HYDRARGYRI AMMONIATI.

Schnabel, C., believes that the ointment of ammoniated mercury is best prepared from the freshly precipitated mercury compound, with the addition possibly of a small proportion of wool fat.—Apoth. Ztg. Berl., 1907, v. 22, p. 1119.

Vörner, H., (from Deutsch. med. Wchnschr., 1907, No. 10) recommends that white precipitate ointment be prepared, similarly to the yellow mercuric oxide ointment, by incorporating the fat with freshly ammoniated mercury while in a moist condition. A good ointment is obtained by incorporating the calculated quantity of the mercurial compound in well drained magma direct with vaseline.—Pharm. Ztg., Berl., 1907, v. 52, p. 222.

UNGUENTUM HYDRARGYRI DILUTUM.

Hess, Paul L., thinks that this dilute preparation is a good addition to the Pharmacopœia, as an ointment of this strength has been dispensed for years in place of the 50 per cent preparation.—Proc. Missouri Pharm. Ass., 1907, p. 139.

UNGUENTUM HYDRARGYRI NITRATIS.

The inspectors of pharmacies assert that the ointment of mercuric nitrate is frequently badly prepared or has undergone decomposition. Samples were found that had a brown tint, others were gray.—Ann. de pharm., Louvain, 1907, v. 13, p. 377.

UNGUENTUM HYDRARGYRI OXIDI FLAVI.

The Ph. Helv. IV formula for the ointment of yellow oxide of mercury directs the use of a freshly prepared mercuric oxide mixed with wool fat and vaseline.—Pharm. Ztg., Berl., 1907, v. 52, p. 893.

At the Congress of Pharmaceutical Chemists in Milan the following formula was proposed for inclusion in the New Italian Pharmacopœia: Yellow mercuric oxide, 5 gm.; wool fat, 5 gm.; vaseline, 90 gm. The mercuric oxide is freshly precipitated, washed with water, then with alcohol and alcohol-ether, and finally with ether. While moist, it is triturated with the wool fat, then heated on the water-bath until the ether is exaporated, and lastly mixed with the vaseline.—(Rep. de Pharm., 1907, No. 11.) Proc. Am. Pharm. Ass., 1908, v. 56, p. 137.

Guyot, M. R., discusses the preparation of ointment of yellow oxide of mercury, the cause of irritation, and the conservation of the ointment.—Bull. de la Soc. de pharm. de Bordeaux, 1907, v. 47, pp. 71-78.

Schnabel, C., recommends that the ointment of yellow mercuric oxide be made with freshly precipitated mercuric oxide.—Apoth. Ztg. Berl., 1907, v. 22, p. 1119.

UNGUENTUM IODI.

Schultze, Louis, proposes the following solution of iodine to be used (10 minims to 1 gm. of benzoinated lard) for the extemporaneous preparation of the U. S. P. iodine ointment:

Powdered iodine.....	62 grains.
Potassium iodide.....	62 grains.
Glycerin.....	
Distilled water aa. q. s.....	280 minims.

—Proc. Maryland Pharm. Ass., 1907, p. 49.

UNGUENTUM PHENOLIS.

Hess, Paul L., does not think that the use of white petrolatum in place of the U. S. P. ointment in the ointment of phenol is an improvement.—Proc. Missouri Pharm. Ass., 1907, p. 140.

UNGUENTUM POTASSII IODIDI.

Rupp and Kost (Pharm. Ztg., 1907, No. 13) outline a method for the determination of the iodide in the ointment of potassium iodide; that is not influenced by the presence of chloride or bromide ions that may be present. The method depends on the liberation of the iodine present by an acid solution of potassium permanganate and titration with thiosulphate solution.—Schweiz. Wchnschr. f. Chem. u. Pharm. Zürich, 1907, v. 45, p. 153.

UNGUENTUM RESORCINI COMPOSITUM N. F.

St. James, J. C. Arthur, reports his experience in making compound ointment of resorcin and suggests melting the paraffin, petrolatum, and wool fat in the order named, adding the oil of cade, and then gradually adding these to the powders in a large mortar and triturating till cool; by this process he invariably secures a perfect mixture.—Bull. Pharm., 1907, v. 21, p. 163.

UNGUENTUM VERATRINÆ.

Cohn, Alfred I., asserts that it is a settled axiom in making ointments that, wherever possible, solid substances should be incorporated in the form of solution. For making unguentum veratrinæ he suggests that the alkaloid be dissolved in a very small quantity of alcohol, to this a little castor oil is added, which is then stirred until the alcohol has evaporated, after which the benzoinated lard is added. To adapt the procedure to the U. S. P. formula, it is only necessary to dissolve the veratrine in a little ether or chloroform, in both of which it is quite soluble, this solution made with the expressed oil of almond, and then triturated as above.—Am. Druggist, N. Y., 1907, v. 51, p. 6.

UNGUENTUM ZINCI OXIDI.

Baird, J. W., (com. on adulterations) reports on 19 samples, 12 genuine, 7 adulterated.—Proc. Massachusetts Pharm. Ass., 1907, p. 40.

UVA URSI.

An unsigned article quotes Stevens, Caldwell, and three manufacturers as giving the percentage of alcohol in the official fluid extract of uva ursi as 19.0, 19, 40, 30, and 35 per cent, respectively.—Drug. Circ., N. Y., 1907, v. 51, p. 319,

VALERIANA.

An unsigned article asserts that preparations made from the fresh root of *Valeriana officinalis* are more active than those of the dried root, and points out that Chevalier has recently examined the fresh juice and found it to contain an alkaloid, a glucoside, and a resinous substance, all of which are physiologically active. The alkaloid and the glucoside undergo a change or become volatilized during process of drying.—Am. Druggist, N. Y., 1907, v. 51, p. 46.

Chevalier, J., presents a paper on the pharmacodynamic action of a new alkaloid contained in the root of fresh valerian.—Compt. rend. Acad. d. sc. Par., 1907, v. 144, pp. 154–157.

VANILLA.

An unsigned article outlines the method of preparing vanilla for the market and compares the resulting product with vanillin, which latter the writer believes to be preferable for sanitary reasons.—Nat. Druggist, St. Louis, 1907, v. 37, p. 13.

An editorial discusses the production of vanilla in the Seychelles Islands, and points out that owing to the present low prices for this article the economic conditions in these islands are unsatisfactory.—Chem. & Drug., Lond., 1907, v. 70, p. 935.

Simon, Maurice, presents a compilation in tabular form of the total production of vanilla during the years 1901 to 1906. The production of Mexican vanilla for 1905 and 1906 is estimated as 200,000 kilograms.—Tropenpflanzer, Berl., 1907, v. 11, 871.

Major, William, outlines the following method for preparing tincture of vanilla from Bourbon vanilla beans: Macerate the beans in boiling water for one-half hour, then add a sufficient quantity of dilute alcohol. The boiling water destroys the bitter taste characteristic of the Bourbon beans, and the tincture then produced compares well with a tincture made from the Mexican vanilla.—Bull. Pharm., Detroit, 1907, v. 21, p. 249.

The Massachusetts State Board reports on 6 samples of tincture of vanilla; 3 were below standard.—Proc. Am. Pharm. Ass., 1907, v. 55, p. 331.

VANILLINUM.

An unsigned article discusses the status of vanillin under the food and drugs act and the permissibility of using it in flavoring extracts. Vanillin is said to approach as near to the ideal of sanitary perfection as is humanly possible.—Nat. Druggist, St. Louis, 1907, v. 37, pp. 13–14.

Spurge, E. C., discusses the chemistry of vanillin, its history and uses, and gives an outline of its method of manufacture.—Am. Druggist, N. Y., 1907, v. 50, p. 223.

Kebler, Lyman F., says the synthetic production of vanillin undoubtedly was one of the greatest scientific achievements and triumphs of chemistry. Vanillin is a very valuable commodity, but should be exploited as such, and not disguised to take the place of extract of vanilla and deprive the latter of its time-honored reputation.—J. Frankl. Inst., Phila., 1907, v. 163, p. 310.

Roesler, A., outlines a method for preparing vanillin from guaiacol.—Pharm. Ztg., Berl., 1907, v. 52, p. 893.

VERATRINA.

Fetterolf, Daniel W., discusses the application of the Lloyd reaction to mixtures of hydrastine and veratrine, and concludes that veratrine gives no characteristic reaction with the Lloyd reaction for alkaloids.—Am. J. Pharm., 1907, v. 79, p. 323.

Busquet and Pachon discuss the influence of veratrine on the form of cardiac pulsation, contribution to the study of cardiac tetanus.—Compt. rend. Soc. de biol., Par., 1907, v. 62, pp. 913-946, 1220-1222. (See also article by Busquet. J. de physiol. et de path. gen., Par., 1907, v. 9, pp. 50-54.)

VERATRUM.

Henkel, Alice, figures and describes *Veratrum viride* Ait., also known as true veratrum, green veratrum, American veratrum, green hellebore, swamp-hellebore, big hellebore, false hellebore, bear-corn, bugbane, bugwort, devil's bite, earth gall, Indian poke, itchweed, tickleweed, duckretter.—Bull. Bur. Plant Ind., U. S. Dept. Agric., 1907, No. 107, pp. 18-19.

An editorial points out that veratrum viride yields a number of proximate substances, alkaloidal and resinous, but to none of these substances does any recognized authority ascribe the value of veratrum.—Paint, Oil, and Drug Review, Chicago, 1907, v. 43, May 8, p. 25.

Puckner, W. A., reviews the communication by Bredemann on the estimation of alkaloids in veratrum, and outlines his process.—Pharm. Rev., Milwaukee, 1907, v. 25, p. 331.

Hirst, John C., is reported to have said that the routine treatment of eclampsia at the University of Pennsylvania Maternity Hospital consisted of chloroform to avert attack if possible, veratrum viride fluid extract hypodermically, lavage of the stomach and the introduction of castor oil, with hypodermoclysis of salt solution, veratrum viride being used for recurring convulsions.—N. York M. J., 1907, v. 85, p. 764.

Norris, Richard C., is reported to have said that veratrum is useful in moderate doses in case of sudden onset of eclampsia, the doses to

be frequently repeated until the pulse is slowed. In some cases it would be contraindicated, and it should be used with caution.—*Ibid.*, v. 85, p. 765.

Powers, H. W., discusses the physiological action and therapeutic indications of veratrum.—*Eclectic M. J.*, v. 67, pp. 83–84.

Buchanan, Drysdale T., asserts that veratrum viride acts as a powerful heart sedative.—*Tr. Am. Inst. Homœop.*, 1907, 63d session, p. 619.

Kinyon, C. B., points out that one of the most striking characteristics of veratrum album is that before, during, and following menstruation there is great sexual excitement. It is looked upon by many as the chief anchor in the treatment of puerperal eclampsia, but it certainly does possess the power of restoring the secretion of milk and the lochial discharge, and subduing to a great extent the inflammation surrounding the uterus and ovaries.—*Ibid.*, p. 394.

Additional references on the use of veratrum will be found in the Index Medicus.

VIBURNUM PRUNIFOLIUM.

Francis, John M., has seen some lots of black haw gathered from the wrong part of the shrub, and also some samples which were collected from the wrong species.—*Proc. Pennsylvania Pharm. Ass.*, 1907, p. 63.

Philipp Röder (*Jahresbericht*, Wien, 1907, p. 46) thinks the 5 per cent limit for ash, in the Ph. Austr. VIII, is too low. Only two samples examined were well within this limit, the remaining samples varying from 5.41 to 6.59 per cent.

VIBURNUM OPULUS.

Kinyon, C. B., discusses the uses of viburnum opulus, and points out that a valuable point of distinction between this and caulophyllum is that in cases of amenorrhœa or dysmenorrhœa the caulophyllum patient can not endure the pain but becomes frantic and almost delirious. There is a striking similarity. Both remedies are indicated in tall, slender, fair-haired, hysterical persons suffering from disorders of menstruation.—*Tr. Am. Inst. Homœop.*, 1907, 63rd Session, p. 395.

VINUM.

The methods for the analysis of wine as outlined by the Association of Official Agricultural Chemists provides for 24 determinations, including specific gravity, alcohol, glycerol, extract, ash, total acids, sugar, tannin, heavy metals, and nitrates.—*Bull. Bur. Chem.*, U. S. Dept. Agric., 1907, No. 107, pp. 83–89.

The official French methods for analyzing wines are reproduced. They include the determination of alcohol, extract, saccharose and dextrose, total acids, fixed acids, volatile acids, tartaric acid, potash, and ash.—Schweiz. Wehnschr. f. Chem. u. Pharm. Zürich, 1907, v. 45, pp. 782–788.

Günther, Adolf., presents a compilation of the official statistics on the examination of wines in the German Empire during 1905–6.—Arb. a. d. Kais. Gsndhts. Amte, Berl., 1907, v. 27, pp. 1–93.

Von der Heide, G., and others, present a compilation of the results of the official examination of must or new wine during the year 1905–6 in the several wine-producing countries of the German Empire.—*Ibid.*, v. 27, pp. 94–182.

Thurston, Azor, discusses the optical rotation of wines and quotes Bigelow on the behavior of the several commercial wines.—Merck's Report, N. Y., 1907, v. 16, p. 124.

Fisher, Ernst, discusses the determination of the weight per cent of alcohol in wines and presents data designed to facilitate the calculation of the weight percentage from the specific gravity of the wine and of the alcoholic distillate.—Chem. Ztg., Cöthen, 1907, v. 31, pp. 2–3.

Duboux and Dutoit outline a method for the determination of alcohol in wine, which depends on the determination of what they term the critical temperature of dissolution "C. T. D.," the temperature at which a mixture will mix homogeneously with a certain solution.—Schweiz. Wehnschr. f. Chem. u. Pharm. Zürich, 1907, v. 45, pp. 753–755.

Heidushka and Quincke discuss the quantitative determination of the more important acids found in wines, in addition to the alcohol and glycerin.—Arch. d. Pharm., 1907, v. 245, pp. 458–461.

Rocques, Z., notes that Feldman's proposed modification of the Neubauer-Löwenthal process for the estimation of tannin in wine, by replacing permanganate of potash by hypochlorite of lime, was indicated by Löwenthal in the 3^d edition of Fresenius (1875, p. 811). He thinks the permanganate has the advantage over the hypochlorite of keeping better, though according to the author the end of the operation is more easily recognizable with the hypochlorite.—Ann. de chim. analyt. Par., 1907, v. 12, p. 195.

Hubert and Alba discuss the detection of arsenic, copper, lead, and zinc in wines, giving three figures of apparatus employed.—*Ibid.*, v. 12, pp. 230–237.

Hubert discusses the estimation of manganese in wines.—*Ibid.*, v. 12, pp. 264–267.

Charles, P., contributes a note on the estimation of total tartaric acid in the tartars and lees of wines.—*Ibid.*, v. 12, p. 355.

An editorial discusses the dietetic value of wines, and quotes from a report on the effects produced on the physiological functions of the body by various beverages, recently published in the *Hospital*.—*Pharm. J. Lond.*, 1907, v. 24, pp. 802–803.

Seoville, Wilbur L., points out a number of desirable changes in connection with National Formulary preparations which he believes would tend to make them more palatable. He particularly recommends the addition of wines to some elixirs.—*Drug. Circ.*, N. Y., 1907, v. 51, p. 294.

The editor, in commenting on some of the proposed changes, thinks it well to avoid making medicines so palatable with wine that their use may be unnecessarily prolonged, or a taste for wine engendered.—*Ibid.*, v. 51, p. 294.

Hubaut, P., (*La Revue*) declares that it may be stated without fear of exaggeration that in Paris, and everywhere where the vine is not cultivated, *i. e.*, in half of France, and as regards more than half the consumption, the wine drunk is not pure wine and is not the juice of the grape.—*Brit. Food J.*, Lond., 1907, v. 9, p. 23.

The *British Food Journal* (Lond., 1907, v. 9, p. 114) notes that a royal decree has been issued by the Portuguese Government, the object of which is to prevent the sale, warehousing, and exportation of full-bodied wines under the denominations “Port,” “Madeira,” “Carcavellos,” and “Setubal Moscatel,” which are not actually the produce of Douro, Madeira, Carcavellos, and Setubal regions, respectively. Douro full-bodied wines must be exported from the bar of the Douro and from the port of Leixoes; Madeira from the port of Funchal; Carcavellos and Setubal Moscatel from the bars of the Tagus and Sado; or if these wines are shipped from any other port in the country they must be provided with a certificate of origin issued by the Oporto, Funchal, Lisbon, or Setubal customs-house, as the case may be. Further, the wines may only be exported by parties whose names are entered in the registers to be opened at the customs-houses of Lisbon, Oporto, and Funchal.

Additional references on the analysis of wine may be found in the *Experiment Station Record* and in *Chemical Abstracts*.

VINUM RUBRUM.

The *Lancet* Analytical Commission reports on the “Port wine and the vineyards of the Alto Douro.”—*Lancet*, Lond., 1907, v. 173, pp. 1705–1714.

Guérin, G., presents a method of determination of total acidity and volatile acids in colored wines.—*J. de pharm. et de chim.*, Par., 1907, v. 25, pp. 491–492.

Jean and Frabot present a modification of Trillat’s process for the precipitation, by means of formol, of the coloring matter of

red wine, which they claim to be more expeditious and satisfactory.—*Ann. de chim. analyt., Par.*, 1907, v. 12, p. 52.

Astruc, H., commends the process and comments on its range of applicability.—*Ibid.*, v. 12, p. 140.

Sabrazés and Marcandier (*Ann. de l'Institut. Pasteur, Paris*, v. 21, No. 4) report a series of experiments designed to show the bactericidal power of pure wine. Equal parts of contaminated water and pure white wine become sterile in six hours, while red wine and water require twelve hours, using typhoid bacilli.—*J. Am. M. Ass.*, 1907, v. 49, p. 192.

VIRUS VACCINICUM.

Schanberg, J. Frank, calls attention to the misuse of the term vaccination in opsono therapy. He states that in vaccination living organisms are introduced, but in bacterial inoculations toxins are introduced. Vaccine applies properly only to a subject related to the bovine species, from *vacca*, a cow. Much confusion will result if the distinction is not made.—*J. Am. M. Ass.*, 1907, v. 49, p. 259.

Nelson, Glenn M., records an extensive study on the bacteriological impurities in vaccine virus. He concludes that the vaccine virus of to-day is far more nearly sterile, and thereby more reliable as a preventive of the virulent smallpox.—*Pacific Pharm., San Francisco*, 1907-8, v. 1, pp. 93-96.

Camus, L., discusses the determination of the quantity of glycerin in the vaccine of Jenner. With three very small quantities of vaccine one may obtain very easily and rapidly by the method of Maurice Nieloux an indication of the proportion of glycerin.—*Compt. rend. Soc. de biol., Par.*, 1907, v. 63, pp. 211-213. (See also *J. de pharm. et de chim., Par.*, 1907, v. 26, p. 93.)

An editorial calls attention to the benefits of governmental supervision of vaccine virus, and states that the manufacturer is now required to examine each lot of vaccine virus to determine the freedom from pathogenic micro-organisms, with a special examination for tetanus.—*J. Am. M. Ass.*, 1907, v. 48, p. 1187.

An editorial discusses the uses of vaccination, and points out that the agitation of those who are opposed to vaccination may prove injurious.—*Critic and Guide, N. Y.*, 1907, v. 8, February, p. 3.

Dock, George, discusses compulsory vaccination, antivaccination, and organized vaccination; presents some statistics, and concludes that our present method, varying much in different States and different parts of the same State, make certain a high ratio of smallpox cases with an unduly low protection to the individual.—*Am. J. M. Sc., Phila.*, 1907, v. 133, pp. 218-233.

An editorial states that the advisory board of the department of health of Pennsylvania rules that three faithfully performed vacci-

nations at intervals of two weeks without taking are sufficient evidence that the patient is for the time being (estimated at one year) immune to smallpox. The editor cites that the proof is not convincing.—*J. Am. M. Ass.*, 1907, v. 49, p. 780.

The contributor of the "Vienna Letter" quotes the statement of Professor Neuburger, in the *Wiener klinische Wochenschrift*, that the annual mortality from smallpox was 2,000 in Vienna, 70,000 in Germany, and 400,000 in Europe at the end of the eighteenth century, before the introduction of vaccination. Jenner's method became known in 1800 and as vaccination increased, the deaths from smallpox decreased to a remarkable degree.—*Ibid.*, v. 49, p. 1930.

Knoepfelmacher, Wilhelm, discusses the subcutaneous injection of cow-pox vaccine and reports a number of experiments and its uses as an immunizing and a diagnostic agent.—*Ztschr. f. exper. Path. u. Therap.*, 1907, v. 4, pp. 880-909.

Eaton, Charles Woodhull, presents the facts about variolinum, a virus which he asserts has been amply demonstrated to be an efficient preventive of smallpox. Of the 2,806 patients protected by variolinum, 547 were known to have been exposed to smallpox and 14 of the latter number were known to have acquired smallpox.—*Tr. Am. Inst. Homœop.*, 1907, 63d Session, pp. 547-561.

A number of references on vaccine and vaccination will be found in the *Index Medicus* and the *J. Am. M. Ass.*

ZINCI ACETAS.

Caspari, Chas. E., (com. on adulterations) examined 3 samples; 2 satisfactory, 1 contained chloride.—*Proc. Missouri Pharm. Ass.*, 1907, p. 147.

ZINCI CHLORIDUM.

Gilmour, J. P., found zinc chloride to be invariably basic.—*Year Book Pharm., Lond.*, 1907, pp. 446-455.

The inspectors of pharmacies assert that zinc chloride is frequently found decomposed or deliquesced, and suggest that it be kept in a desiccator.—*Ann. de pharm., Louvain*, 1907, v. 13, p. 326.

MacGowan, Granville, mentions the use of zinc chloride for the cauterization of the curetted surfaces in the mixed treatment of lupus. Moist dressings of boro-salicylic acid are then used.—*J. Am. M. Ass.*, 1907, v. 49, p. 741.

ZINCI OXIDUM.

Robinson, R. A., jr., points out that the *Codex* asserts that zinc oxide is never completely soluble in solution of ammonia, owing to imperfect combustion of the zinc from which it is prepared.—*Pharm. J., Lond.*, 1907, v. 25, p. 508.

Scott, W. G., discusses the properties of zinc oxide, its production and some of its uses.—*Paint, Oil, and Drug Rev.*, Chicago, 1907, v. 44, December 11, pp. 21–22.

Evans Sons Lescher and Webb (Analytical Notes, 1907–8, p. 46) assert that up to 6 parts of arsenium per million is occasionally detected, and from 0.05 to 2 per cent of lead.

Caspari, Chas. E., (com. on adulterations) examined 8 samples; 6 satisfactory, 2 contained chloride.—*Proc. Missouri Pharm. Ass.*, 1907, p. 145.

Gilmour, J. P., found 25 samples to be of Ph. Brit. standard; he confirms Squire's experience that some are not entirely soluble in solution of ammonia.—*Year Book Pharm.*, Lond., 1907, pp. 446–455.

ZINCI PHENOLSULPHONAS.

Evans Sons Lescher and Webb (Analytical Notes, 1907–8, p. 46) report two lots which left 14.9 per cent and 15.08 per cent of oxide, respectively, upon ignition, and were practically free from all impurities except iron. The presence of traces of the latter appears to be common in this article.

ZINCI STEARAS.

Murray, Benjamin L., points out that zinc stearate of the U. S. P. containing a "small but varying proportion of zinc palmitate" must yield by one method of assay "about 13.5 per cent" of zinc oxide, and by another, better method, 14 to 16 per cent. Pure zinc stearate can only yield about 12.7 per cent and pure zinc palmitate about 14.1 per cent. It is plain that a mixture of them could not yield more than the palmitate alone, as required at present. About 12 to 15 per cent would be a requirement that could be met.—*Merck's Report*, N. Y., 1907, v. 16, p. 248.

Hankey, W. T., asserts that zinc stearate can be readily prepared and suggests that the Pharmacopœia contain a formula for its manufacture.—*Am. Druggist*, N. Y., 1907, v. 50, p. 9.

Blome, Walter H., (com. on adulterations) reports zinc stearate containing a trace of chloride.—*Proc. Michigan Pharm. Ass.*, 1907, p. 71.

ZINCI SULPHAS.

Alcock, F. H., describes an unusual sample of zinc sulphate, which has been brought to his attention and which had evidently effloresced. It was not entirely soluble in water, a translucent, jelly-like sediment remaining when a portion was put into distilled water, which, on the addition of a little hydrochloric, sulphuric, or nitric acid, quickly disappeared. It did not suit official requirements, and may

have suffered change during the drying process.—Pharm. J., Lond., 1907, v. 24, p. 6.

Blome, Walter H., (com. on adulterations) reports zinc sulphate containing an appreciable quantity of chloride.—Proc. Michigan Pharm. Ass., 1907, p. 71.

Caspari, Chas. E., (com. on adulterations) examined 10 samples, 8 satisfactory, 2 contained excess of chloride.—Proc. Missouri Pharm. Ass., 1907, p. 145.

Glixelli, Stanislaus, presents observations on the theory of the H_2S precipitation of metals, particularly the action of hydrogen sulphide on zinc salts.—Ztsch. f. anorg. Chem., 1907, v. 55, pp. 297–320.

ZINGIBER.

Garnett and Grier report observations to determine the pungent principle of ginger; report their experiments in detail, and outline a simple test which enables one to distinguish between pure preparations and those fortified by the addition of capsicum.—Pharm. J., Lond., 1907, v. 25, pp. 118–120.

Gehe & Co. (Handels-Bericht, 1907, p. 47) discuss the production of ginger in various countries, and give a table showing the total production during the years 1905 and 1906.

Philipp Röder (Jahresbericht, Wien, 1907, p. 109) points out that the 5 per cent limitation for ash permitted by the Ph. Austr. VIII is unusually low, largely because the greater portion of the commercial drug is dusted with lime salts. When this added lime was removed by means of hydrochloric acid it was found that the ash content could be reduced from 6.2 to 2.90. Four samples of ginger examined varied from 5.70 to 7.44 per cent of ash.

Reich, R., discusses the examination of ginger and the detection of extracted ginger. He describes Cochin ginger, Japanese ginger, Bengal ginger, African ginger, and commercial powdered ginger, also outlines the factors that are to be determined.—Ztschr. f. Unters. d. Nahr. u. Genussm., 1907, v. 14, pp. 549–567.

McGill, A., (Lab. Inland Rev. Dept. Canada, Bul. 130, p. 13) examined 30 samples of ground ginger found in the Canadian market, 29 of which were genuine, while adulteration was not absolutely certain in the remaining sample.—Exp. Sta. Rec., 1907–8, v. 19, p. 968.

Winton, A. L., asserts that whole ginger during long storage is almost sure to be attacked by the drug-store beetle, which makes numerous burrows and finally converts the drug almost entirely into a disgusting powder.—Proc. Ass., Off. Agric. Chem., 1907, 24th Ann. Conv., p. 11. (Bull. Bur. Chem., U. S. Dept. Agric., 1908, No. 116.)

Baird, J. W., (com. on adulterations) reports on 17 samples, 9 genuine, 8 adulterated.—Proc. Massachusetts Pharm. Ass., 1907, p. 39.

Lythgoe, Hermann C., reports that of 15 samples of fluid extract of ginger examined, 7 were made with weak alcohol and consequently contained but little ginger oil and resin.—Rep. Massachusetts Bd. Health, 1907-8, p. 379.

Sayre, L. E., points out that a tincture of ginger made from the Jamaica variety of the root, when made into a 20 per cent tincture, will give an extract that will contain from 0.235 to 0.240 per cent of volatile oil. A 20 per cent tincture of African ginger will yield an extract that will contain from 0.40 to 0.45 per cent of volatile solids. He reports examining 2 commercial samples of essence of Jamaica ginger which were found to contain 0.36 and 0.226 per cent of volatile solids, respectively.—Bull. Kansas Bd. Health, 1907, p. 47.

Barnard, H. E., reports that of the 18 samples of tincture of ginger examined, 7 were pure and 11 below standard.—Rep. Indiana Bd. Health, 1907, p. 193.

LIST OF HYGIENIC LABORATORY BULLETINS OF THE PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE.

The Hygiene Laboratory was established in New York, at the Marine Hospital on Staten Island, August, 1887. It was transferred to Washington, with quarters in the Butler Building, June 11, 1891, and a new laboratory building, located in Washington, was authorized by act of Congress, March 3, 1901.

The following *bulletins* [Bulls. Nos. 1-7, 1900 to 1902, Hyg. Lab., U. S. Mar.-Hosp. Serv., Wash.] have been issued.

*No. 1.—Preliminary note on the viability of the *Bacillus pestis*. By M. J. Rosenau.

No. 2.—Formalin disinfection of baggage without apparatus. By M. J. Rosenau.

*No. 3.—Sulphur dioxid as a germicidal agent. By H. D. Geddings.

*No. 4.—Viability of the *Bacillus pestis*. By M. J. Rosenau.

No. 5.—An investigation of a pathogenic microbe (*B. typhi murium* Danyz) applied to the destruction of rats. By M. J. Rosenau.

*No. 6.—Disinfection against mosquitoes with formaldehyde and sulphur dioxid. By M. J. Rosenau.

No. 7.—Laboratory technique: Ring test for indol, by S. B. Grubbs and Edward Francis; Collodium sacs, by S. B. Grubbs and Edward Francis; Microphotography with simple apparatus, by H. B. Parker.

By act of Congress approved July 1, 1902, the name of the "United States Marine-Hospital Service" was changed to the "Public Health and Marine-Hospital Service of the United States," and three new divisions were added to the Hygienic Laboratory.

Since the change of name of the service the bulletins of the Hygienic Laboratory have been continued in the same numerical order, as follows:

*No. 8.—Laboratory course in pathology and bacteriology. By M. J. Rosenau, (Revised edition, March, 1904.)

*No. 9.—Presence of tetanus in commercial gelatin. By John F. Anderson.

No. 10.—Report upon the prevalence and geographic distribution of hookworm disease (uncinariasis or anchylostomiasis) in the United States. By Ch. Wardell Stiles.

*No. 11.—An experimental investigation of *Trypanosoma lewisi*. By Edward Francis.

*No. 12.—The bacteriological impurities of vaccine virus; an experimental study. By M. J. Rosenau.

*No. 13.—A statistical study of the intestinal parasites of 500 white male patients at the United States Government Hospital for the Insane; by Philip E. Garrison, Brayton H. Ransom, and Earle C. Stevenson. A parasitic roundworm (*Agamomermis cuticis* n. g., n. sp.) in American mosquitoes (*Culex sollicitans*); by Ch. Wardell Stiles. The type species of the cestode genus *Hymenolepsis*; by Ch. Wardell Stiles.

No. 14.—Spotted fever (tick fever) of the Rocky Mountains; a new disease. By John F. Anderson.

No. 15.—Inefficiency of ferrous sulphate as an antiseptic and germicide. By Allan J. McLaughlin.

*No. 16.—The antiseptic and germicidal properties of glycerin. By M. J. Rosenau.

*No. 17.—Illustrated key to the trematode parasites of man. By Ch. Wardell Stiles.

*No. 18.—An account of the tapeworms of the genus *Hymenolepis* parasitic in man, including reports of several new cases of the dwarf tapeworm (*H. nana*) in the United States. By Brayton H. Ransom.

*No. 19.—A method for inoculating animals with precise amounts. By M. J. Rosenau.

*No. 20.—A zoological investigation into the cause, transmission, and source of Rocky Mountain "spotted fever." By Ch. Wardell Stiles.

No. 21.—The immunity unit for standardizing diphtheria antitoxin (based on Ehrlich's normal serum). Official standard prepared under the act approved July 1, 1902. By M. J. Rosenau.

*No. 22.—Chloride of zinc as a deodorant, antiseptic, and germicide. By T. B. McClintic.

*No. 23.—Changes in the Pharmacopœia of the United States of America. Eighth decennial revision. By Reid Hunt and Murray Galt Motter.

No. 24.—The International Code of Zoological Nomenclature as applied to medicine. By Ch. Wardell Stiles.

No. 25.—Illustrated key to the cestode parasites of man. By Ch. Wardell Stiles.

No. 26.—On the stability of the oxidases and their conduct toward various reagents. The conduct of phenolphthalein in the animal organism. A test for saccharin, and a simple method of distinguishing between cumarin and vanillin. The toxicity of ozone and other oxidizing agents to lipase. The influence of chemical constitution on the lipolytic hydrolysis of ethereal salts. By J. H. Kastle.

No. 27.—The limitations of formaldehyde gas as a disinfectant with special reference to ear sanitation. By Thomas B. McClintic.

*No. 28.—A statistical study of the prevalence of intestinal worms in man. By Ch. Wardell Stiles and Philip E. Garrison.

*No. 29.—A study of the cause of sudden death following the injection of horse serum. By M. J. Rosenau and John F. Anderson.

No. 30.—I. Maternal transmission of immunity to diphtheria toxine. II. Maternal transmission of immunity to diphtheria toxine and hypersusceptibility to horse serum in the same animal. By John F. Anderson.

No. 31.—Variations in the peroxidase activity of the blood in health and disease. By Joseph H. Kastle and Harold L. Amoss.

No. 32.—A stomach lesion in guinea pigs caused by diphtheria toxine and its bearing upon experimental gastric ulcer. By M. J. Rosenau and John F. Anderson.

No. 33.—Studies in experimental alcoholism. By Reid Hunt.

No. 34.—I. *Agamofilaria georgiana* n. sp., an apparently new roundworm parasite from the ankle of a negress. II. The zoological characters of the roundworm genus *Filaria* Mueller, 1787. III. Three new American cases of infection of man with horsehair worms (species *Paragordius varius*), with summary of all cases reported to date. By Ch. Wardell Stiles.

*No. 35.—Report on the origin and prevalence of typhoid fever in the District of Columbia. By M. J. Rosenau, L. L. Lumsden, and Joseph H. Kastle. (Including articles contributed by Ch. Wardell Stiles, Joseph Goldgerger, and A. M. Stimson.)

No. 36.—Further studies upon hypersusceptibility and immunity. By M. J. Rosenau and John F. Anderson.

No. 37.—Index-catalogue of medical and veterinary zoology. Subjects: Trematoda and trematode diseases. By Ch. Wardell Stiles and Albert Hassall.

No. 38.—The influence of antitoxin upon post-diphtheritic paralysis. By M. J. Rosenau and John F. Anderson.

No. 39.—The antiseptic and germicidal properties of solutions of formaldehyde and their action upon toxines. By John F. Anderson.

No. 40.—1. The occurrence of a proliferating cestode larva (*Sparganum proliferum*) in man in Florida, by Ch. Wardell Stiles. 2. A reexamination of the type specimen of *Filaria restiformis* Leidy, 1880—*Agamomermis restiformis*, by Ch. Wardell Stiles. 3. Observations on two new parasitic trematode worms: *Homatogaster philippincensis* n. sp., *Agamodistomum nanus* n. sp., by Ch. Wardell Stiles and Joseph Goldberger. 4. A reexamination of the original specimen of *Tania saginata abietina* (Weinland, 1858), by Ch. Wardell Stiles and Joseph Goldberger.

*No. 41.—Milk and its relation to the public health. By various authors.

No. 42.—The thermal death points of pathogenic micro-organisms in milk. By M. J. Rosenau.

No. 43.—The standardization of tetanus antitoxin (an American unit established under authority of the act of July 1, 1902). By M. J. Rosenau and John F. Anderson.

No. 44.—Report No. 2 on the origin and prevalence of typhoid fever in the District of Columbia, 1907. By M. J. Rosenau, L. L. Lumsden, and Joseph H. Kastle.

No. 45.—Further studies upon anaphylaxis. By M. J. Rosenau and John F. Anderson.

No. 46.—*Hepatozoon perniciosum* (n. g., n. sp.); a haemogregarine pathogenic for white rats; with a description of the sexual cycle in the intermediate host, a mite (*Lclaps echidninus*). By W. W. Miller.

No. 47.—Studies on Thyroid: I. The relation of iodine to the physiological activity of thyroid preparations. By Reid Hunt and Atherton Seidell.

No. 48.—The physiological standardization of digitalis. By Charles Wallis Edmunds and Worth Hale.

No. 49.—Digest of comments on the United States Pharmacopœia. Eighth decennial revision for the period ending December 31, 1905. By Murray Galt Motter and Martin I. Wilbert.

No. 50.—Further studies upon the phenomenon of anaphylaxis. By M. J. Rosenau and John F. Anderson.

No. 51.—Chemical tests for blood. By Joseph H. Kastle.

No. 52.—Report No. 3 on the origin and prevalence of typhoid fever in the District of Columbia. By M. J. Rosenau, L. L. Lumsden, and J. H. Kastle.

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No. 58.—Digest of comments on the Pharmacopœia of the United States of America (eighth decennial revision) and the National Formulary (third edition) for the calendar year ending December 31, 1906. By Murray Galt Motter and Martin I. Wilbert.

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